Military Intelligence

March 1987
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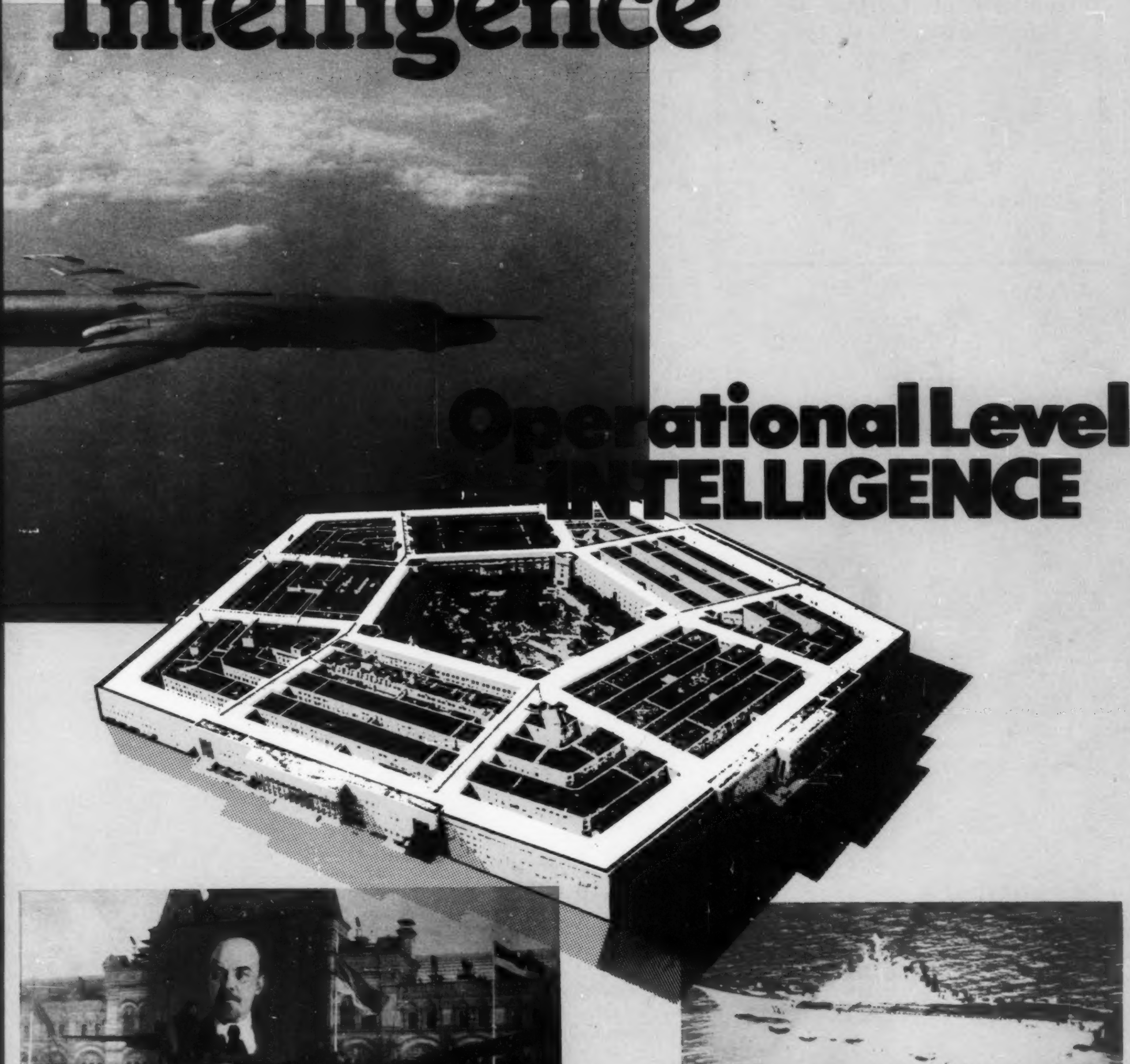
(TEST)

Operational Level INTELLIGENCE



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ATTENTION READERS

This issue of the Military Intelligence professional bulletin incorporates all TRADOC—directed changes. Aside from minor formatting, paper quality and stylistic changes, the essence of our professional bulletin remains unchanged. This is the first issue of 1987, and incorporates information contained in the January-March quarter. ***Military Intelligence*** will continue to be published quarterly. The next issue will thus contain information published from April-June 1987.

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COVER: This issue's cover exemplifies the need for an advanced operational-level perspective which includes the highest levels of government and concerns itself with the entire spectrum of threat analysis.

from the Commander

Four years ago, the Army adopted operational art as a separate division of military studies, restoring the study and application of theater-level operations to doctrine after an absence of nearly 30 years. In addition to the Army-wide effort to generate renewed interest in the study of military history to more effectively conduct peacetime planning, we devoted considerable attention to IEW and Target Acquisition support for the operational-level commander. We coordinated with INSCOM in the structuring of EAC MI brigades and the publication of FM 100-5, *Operations*, which emphasizes the planning imperatives and dynamics of operational art.

The hub of the structure of modern warfare is operational art—the employment of joint and combined military forces within a theater to realize strategic objectives. Central to operational design is the campaign plan which identifies that mix of the four elements of power—political, military, economical, psychological—necessary to defeat the enemy centers of gravity. The center of gravity is that characteristic, locality, or capability from which an enemy derives freedom of action, physical strength, the will to sustain the tempo of military operations, and support for strategic objectives. Operational centers of gravity may include major committed formations, theater reserves, C^3I, LOCs/SLOCs, support to theater reconstitution and sustainment, or the thought processes of the enemy commander. Strategic centers of gravity might include the internal structure of a political-military alliance or the will of a people to support and sustain strategic goals. The perspective of the operational commander is necessarily broad. He continuously focuses on the sequence of actions necessary to expose and defeat these sources of strength. This is the *sine qua non* of victory within a theater, and the role of intelligence is key.

Recognizing the heady responsibility of intelligence, I offer you the following definition which ties the imperatives of the operational design to the ultimate realization of strategic aims within a theater of war. *Operational-level of war intelligence is that which is required for the planning and conduct of campaigns within a theater of war. It concentrates on the collection, identification, location and analysis of strategic and operational centers of gravity that, if successfully attacked, will lead to the achievement of friendly political and military-strategic objectives within a theater of war.*

Five unified commands or theaters of war are presently in force, reflecting the imperatives of American foreign policy and alliance commitments. The military strategy, force structure and intelligence requirements of each command are distinct. The development of theater strategy and planning demands a comprehensive analysis of the nature of the theater of war. Ultimately, theater analysis must yield adversary and friendly centers of gravity.

Here at the school, we have conceived of an operational-level IPB methodology which ultimately yields these enemy centers of gravity, and that intelligence which will force an adversary to reach earlier than anticipated culminating points. It involves the continuous performance of four functions: theater area evaluation, analysis of the characteristics of the theater of war, threat evaluation and threat integration.

The first function concerns the determination of a theater area of interest, given the theater area of operations, assigned force structure and strategic guidance.

The second function incorporates weather and terrain analysis as part of a much broader analysis of the qualitative features of the theater of war. Included are topography, hydrography, political, economic and social structures.

Threat evaluation, the third function, involves an analysis of the enemy commanders and all available military forces. Other components requiring detailed analysis include enemy employment doctrine and sustaining capabilities and the politics and mechanics of nuclear release, if applicable. Finally, analysts must consider the efficiency, effectiveness and morale of other than patron nation military forces.

The fourth and final function is threat integration. This involves the identification and analysis of all facets of a target nation or alliance as they relate to a theater of war, ultimately yielding centers of gravity, graphically depicted in the context of the operational-level decision support template.

A multi-disciplined and timely intelligence perspective plays a critical role in the identification and exploitation of enemy vulnerabilities, ultimately leading to the destruction of centers of gravity. The challenge of operational-level imperatives is being met on all fronts, as we acquire and field IEW systems which embody the synergistic decide-detect-deliver methodology to support deep operations. We are developing and institutionalizing intelligence doctrine which meets the campaign planning imperatives of the operational commander, and concurrently internalizing lessons learned from those intelligence staffs who plan and train for the exigencies of operational art. ***Toujours en avant*-Always Out Front!**

from the CSM

In earlier editions of our professional bulletin, I addressed the consolidation of the Advanced Noncommissioned Officer Course (ANCOC) at the Intelligence Center and School. Now, upon completion of its first iteration, I must provide feedback. An NCO involved in the redesigning of the new course compared organizing ANCOC in such a short time to "stuffing a mattress into a pillowcase." Because of the total dedication and excellent support of the NCOs and officers involved in the redesign, the course culminated in a manner of which we can all be proud.

Soldiers who attended the first ANCOC class soon discovered that it is designed to be both mentally stimulating and physically demanding. The academic standards are high and will generate an occasional failure. The failure to meet our standards is not a reflection upon the quality of soldiers attending the course, but rather a message to Military Intelligence NCOs to prepare well for ANCOC.

The redesign of the ANCOC course coincided with the new Common Training for Leaders (CTL) developed by the Sergeants Major Academy, and we were able to integrate our curriculum with that provided by the USASMA. Thus, we were presented the opportunity to train not only generic leadership skills, but leadership skills as they apply to the Military Intelligence community. The NCOs who received the integrated training attested that it was a more effective approach.

Another new training strategy for the ANCOC is the presentation of material. Except for a few informational blocks of instruction, the course is taught in the "small group" structure. Students are separated into groups of 12 to 15 NCOs with varied specialties and materials are presented to them through an informal discussion format. This method allows instructors to act as facilitators or guides to involve students in the instruction process. Student leaders are provided lesson guides and training aids and are charged with leading discussions. The facilitator ensures that the discussions do not stray from the lesson. This approach requires class preparation. Student critiques substantiate the fact that the small group process is more effective, allowing easier information retention.

A concern regarding the consolidation of ANCOC was that training in the 33 and 98 Career Management Fields (CMF) would be degraded. It was feared that specialized follow-on training for the 33 CMF soldier, and MOS specific training for the 98 CMF soldier would not be afforded under the consolidation. Although somewhat revised, this training is still being conducted. The 33 CMF NCOs receive their specialized training in a three-week, front loaded course which allows them to start and graduate the consolidated ANCOC with their peers. The 98 CMF NCOs receive their MOS-specific training at a clearance level comparable to past instruction. Subject matter experts from the 33 and 98 CMFs and the National Security Agency have reviewed our curricula and determined that the instruction presented meets the needs of the 33 and 98 CMFs.

The reaction of students to the new ANCOC was particularly exciting. For most, it was the first opportunity to associate with personnel outside their particular CMF, and they discovered how their tasks interact and how they can best utilize available assets. Also, because of the heightened standards, students may feel they have accomplished a major step in their careers and have pride knowing they made it through one of the toughest courses in the NCOES.

The consolidated ANCOC consists of eight weeks classroom instruction and culminates with a five-day field training exercise. In addition to subjects on common military training, the students receive training in all aspects of Military Intelligence skills at all levels of echelon. The CTL curricula includes air-land battle, leadership, resource and training management, military skills and communicative skills. Military Intelligence skills are concentrated on the national intelligence structure, security, threat, IEW operations and the CEWI concept, to name a few.

There is a demanding physical fitness program conducted five days a week, which culminates with an APFT conducted to regulation standards. Students may want to consider increasing their physical conditioning.

In further preparation, students should assess and enhance their communication skills, if necessary. An English diagnostic examination will be administered upon arrival at ANCOC and those who need it, to complete the course's writing assignments will be enrolled in remedial training during off-duty hours.

I remind all prospective students that ANCOC is a leadership school in the NCOES. Do not be surprised at the Noncommissioned Officer Academy environment. Be prepared to hold and be evaluated in various leadership positions throughout your stay, whether it be in the classroom, marching your peers to and from class, or leading the daily physical fitness training. Each class is formed in a battalion structure with all appropriate leadership positions in place.

The redesigned ANCOC is the finest of its kind in the Army today. The end product we strive for is a noncommissioned officer who can go forth proudly upon graduation knowing that he has accepted the challenge, and done well. We are now producing the finest graduates ever from the Military Intelligence ANCOC. We will continue to do so because of the determination and professionalism of the MI soldier.

Behind the Lines

The resurgence of operational-level of war intelligence places greater responsibilities on the shoulders of U.S. Army military intelligence professionals. The intelligence staff officer can no longer be satisfied with a tunnel-vision approach to analysis. He must now concern himself with a broader view of the operational battlefield. A number of this issue's articles, submitted from III Mobile Armored Corps, Fort Hood, Texas, addresses the need for a sophisticated operational intelligence perspective at all levels of echelon.

Noted French novelist and critic, Andre Gide, once stated, "The greatest intelligence is precisely the one that suffers most from its own limitations." Today, the functional synergies that exist among tactical and strategic analysts are well-ingrained. After a long hiatus, operational-level of war intelligence doctrine has been written and is being disseminated to all users. Field manual 34-1, *Intelligence and Electronic Warfare Operations*, January 1987, outlines the doctrine. Now, we must implement.

The role of operational-level of war intelligence entails a myriad of complex and expanded analytical tasks which must be accurately executed under all conditions of the combat environment. Responsive corps and EAC-level training reflects the intensity of the dynamics of operational art, and is iterative. Military intelligence leaders must aggressively train analysts for all levels of conflict through rigorous and realistic field training exercises. Units at all levels of echelon need to address the importance of a multi-level intelligence perspective. Whether the combat scenario depicts an insurgent threat or a full-scale, high-intensity conflict involving entire theaters of war, intelligence analysts will always be charged with analyzing, processing and disseminating information to appropriate users within their area of operations expeditiously and confidently.

In an operational-level scenario, joint and combined arms operations will be essential to successful campaigns. Therefore, joint and combined arms training must be conducted frequently, intensively and realistically. A good example of effective joint, procedural training is the Blue Flag Program. Conducted by the U.S. Air Force Tactical Air Warfare Center, Eglin AFB, Fla., the program emphasizes coordination between the Army, Air Force and other services. This specialized training, addressed in this issue's training notes, benefits all participants and further develops cohesiveness and cooperation among the sister services.

Our intelligence apparatus entails diverse disciplines ranging from language proficiency to highly specialized technical intelligence. The success of any discipline depends directly on the level of training. In the absence of progressive, applicable doctrine or formalized training programs, unit leaders must apply practical experience to provide the most beneficial and realistic training possible, as exemplified in this issue's language notes. Mission-specific training is key to successful operations, whether the tasks involve counterinsurgency operations, interrogation techniques or terrain and weather analysis in support of a theater-level commander. IEW responsiveness depends on training that complements the Army's increasing level of sophistication and technology. Our training will never be complete. French writer Francois La Rochefoucauld aptly summarizes our plight: "To know things well, we must know them in detail; but as that is almost endless, our knowledge is always superficial and imperfect."

William A. Pruitt

Editor

feedback . . .

Dear Editor:

*I would like to address a point raised in the article "Enhanced Symbols" (***Military Intelligence***, July-September 1986) by Maj. Larry Altersitz. In this article, Altersitz proposed a system of map symbols that would provide an efficient way of tracking battle damage on enemy or friendly units.*

While I see nothing wrong with the marking system itself, it does raise one important question: Where will you obtain the information to provide valid, detailed and timely enemy BDA which may be recorded with such precision?

It has been my experience that no other area of battlefield intelligence has the potential for wasting more time to produce an inaccurate and meaningless product than BDA. With the exception of reconnaissance missions tasked to assess the damage done to a specific target, the only source for BDA is the frontline soldier, as filtered through the intervening levels of command between the analyst and the man in the fighting position. However, all battlefield spot reports must be critically examined. The chaos of battle, and the simple fact that the frontline commander accurately regards fighting to be more important than passing spot reports, all tend to paint a very spotty picture to the S2s and G2s in front of their situation maps. The more details you demand from the frontline soldier, the greater your potential for inaccuracy.

This is nowhere more true than in BDA. It is impossible, given the level of technology of the present or the far future, for detailed and accurate BDA of the sort described in the article to be generated. There are too many unknowns. While advanced technology may pass a greater amount of information more efficiently, the validity of the information will still be subject to human error and require human evaluation.

To pose an example: It is possible to report that the enemy has lost ten tanks from its first attacking echelon, with some credibility. But, unless the enemy battalion commander comes up in the clear and says "I am the commander of the 2nd Bn, 7th Regiment and I have lost six tanks from my 1st company and four from my 3rd," you will not definitely know from which company, battalion or possibly which regiment those ten tanks came. Under most circumstances, you won't even be sure that the ten tank "body count" was counted at all. In a high intensity conflict, a considerable number of units that may do a great deal of damage will be destroyed before they can provide a body count. The more pressure the enemy applies to the reporting unit, the less accurate its intelligence reporting. One of the first things to suffer will be the accuracy of its BDA. Also, the units that are under the most pressure will be doing a fairly significant portion of the damage.

BDA is still useful intelligence information, when applied to the overall intelligence picture; but giving your commander the exact strength of every enemy unit due to your precise battle damage assessment is misleading. Like almost everything else in the realm of battlefield intelligence, BDA is an art, not a science. Battlefield intelligence is a consistently changing mix of hard data and educated guesswork; our product will always be only a shadow of battlefield reality. For the tactical intelligence analyst, there is no absolute truth; only varying levels of uncertainty exist. To function under these circumstances, the analyst must concentrate on understanding the "big picture" and not blind himself with the vain search for minutiae and absolute certainty.

This letter is intended to comment on the Army intelligence community's tendency to view the challenge of tactical intelligence as a technical, rather than human, problem. Information reported by human beings under the stress of real or simulated combat will always be imperfect and incomplete, regardless of how sophisticated the systems for processing that information may be. An emphasis on processing, rather than understanding and evaluating data, only serves to send MI soldiers into a tactical world for which they are woefully unprepared. An intelligence analyst with such an emphasis is of little use to his commander.

Capt. Walter Nelson (MI IRR)
The Rand Corp.
Santa Monica, Calif.

Dear Editor:

I would like to thank Capt. Charles Duch ("Developments in Soviet High Commands," **Military Intelligence**, *July-September 1986) for correcting the errors in my article "Soviet Organization for Theater War," (***Military Intelligence***, October-December 1985). The information I presented on personalities holding key high command positions and the organization of high commands of forces within the Soviet military was not accurate and, in light of more recent articles on the subject, misleading. His identification of the four TVD commanders is accurate, as far as western analysts can determine. In addition, my article contended that the Theater of War (or TV, to use the Soviet acronym) was a recently established level of strategic command. The term is a geographic concept, not a level of command. I am, therefore, indebted to Capt. Duch for clarifying these two points.*

I must take issue with one of the author's statements in reference to my analysis. Duch claims that my outline for the structure of Soviet high commands of forces "stems from what may be called the geographic fallacy, the idea that military geography drives troop control developments." Nothing could be further from the truth. In fact, the first part of my article clearly established the historical, doctrinal and technological context within which the theater commands emerged in the early 1980s. Duch effectively summarizes my central points in his synopsis of the sources of Soviet C3 requirements, or, as John Erickson puts it, the doctrine-technology-organization sequence. Nowhere in my article did I state that geography drove the need for the organization of High Commands of Forces in the TVDs, nor did I claim that every TVD had a High Command. Any confusion was undoubtedly generated by my incorrect usage of the TV as a level of strategic command, not the underlying rationale for an intermediary between the Supreme High Command (VGK) and the **fronts**.

*A recent article on the Soviet control system, "The Changing Soviet System of Control for Theater War"(***Signal***, December 1986), clearly delineates the difference between the geographic and command terminology in the Soviet military lexicon. The authors, Lt. Col. John G. Hines and Dr. Phillip A. Petersen, point out the difficulties in translating Russian military terms into English and attempt to clearly define TVs, TVDs and High Commands of Forces. (The best translation of TVD, according to Hines and Petersen, is Theater of Strategic Military Action, or TSMA). They also argue that a High Command of Forces would be established in a TSMA, not within a strategic direction as Duch and others have suggested. Hines and Petersen cite Soviet sources on this point: "The Soviet* **Military Encyclopedic Dictionary** *explains that the strategic direction is part of a TSMA, not an independent entity of forces or an equivalent expression for the same terrain. Several strategic directions might be located within the boundaries of a single TSMA."*

Apparently, not enough has been written on the precise meaning of Soviet military terms, and the search for clearer definitions will continue. Reality does not necessarily refute all of our notions about developments in the Soviet military. But as Fats Waller once observed, "One never knows, does one?"

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Intelligence Requirements at the Operational Level of War

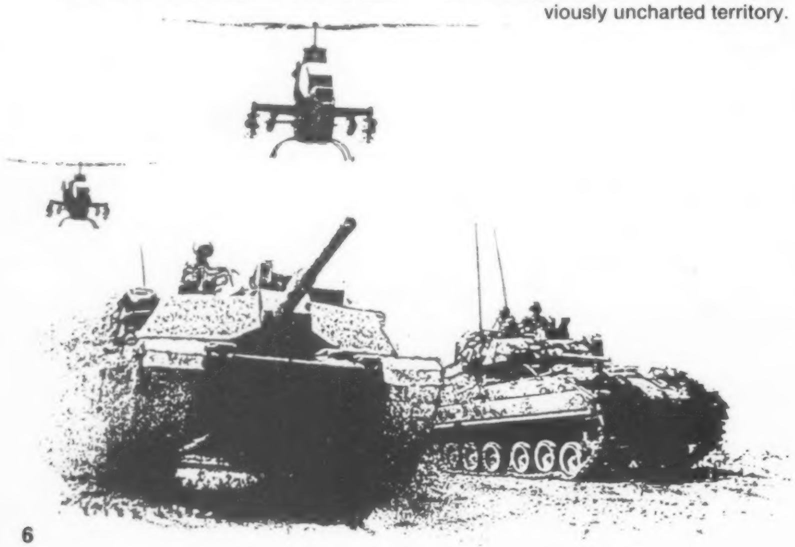
by Lt. Gen. Crosbie E. Saint

Tactical victories contribute to success at the operational level of war only if they reduce the enemy's ability and will to fight. Occupation of terrain objectives avails us little, if the enemy has the means to regain the initiative. Therefore, mobile armored operations orient on the enemy, rather than on terrain. The air-land battlefield will be characterized by stress, accelerated tempo, technological complexity and vastly increased lethality. The need to make faster decisions will be critical, but those decisions will be made in an environment of risk. Our task is to reduce that risk to an acceptable level by putting near-real-time, accurate intelligence in the hands of the commanders who must adapt quickly to a dynamic battlefield.

We have the doctrinal framework, the quality soldiers and the weapon systems necessary to achieve decisive results at the operational level. However, in order to focus combat power effectively, commanders and planners will require an aggressive and quick-witted intelligence effort. Dynamic Intelligence and Electronic Warfare (IEW) operations will enable the commander to take the initiative, and gain the advantage while preserving his own forces for future operations.

Effective intelligence support will allow the commander to manipulate enemy actions and reactions. Considering the limitations of currently deployed IEW systems, this will be difficult. Given our past training, we are too often prone to let our initiative and advantage slip away. Mobile armored operations will pose special challenges for the IEW effort, as we fight to retain hard won initiative and tempo. Such operations will include joint Army-Air Force efforts, deception, offensive EW, attack helicopter strikes, long-range fire support, ground force maneuver and an intense logistics effort. Conditions on the battlefield will favor the commander who can best adapt to changing situations, and fit them into his overall plan without creating disruption. Staff elements will need to quickly reduce matters of great complexity to the warfighting essentials—intelligence is no exception. Good intelligence unleashes well-aimed killing power. Poor intelligence kills good soldiers.

As we work the operational aspects of air-land battle, a series of truths becomes evident. These truths carry our intelligence operations into previously uncharted territory.



First, we must seek out the enemy's center of gravity, focusing on the identification of his vulnerabilities. When we can't find vulnerabilities, we must create them. We must strike the enemy where he is at least temporarily weak, to rupture his plan and the effectiveness of his force. Further, we must force him to respond to our own cunning plan. We must be crafty, even conniving.

> ***"The air-land battle will be characterized by stress, accelerated tempo, technological complexity and vastly increased lethality."***

Second, we will only be able to solve the vulnerability problem if we translate concepts such as priority of effort and economy of force to our IEW operations. We must learn to focus (mass) our collection and analytical efforts. Vulnerabilities at the operational level are apt to be subtle and elusive. They will rarely take so obvious a form as an exposed flank forgotten by an inept commander. We will need to understand and anticipate the interrelationships of the enemy's plan, his force and the battlefield environment. His logistics posture, available road nets, the status of his air defense and fire support assets, river-crossing requirements, communications links and the characteristics of his decisionmaking process are but a sampling of the complex variables in a constantly shifting equation. Target values will be relative and temporary. The accuracy and speed of IEW efforts will determine the commander's ability to hit critical "windows of opportunity." There will be no easy answers.

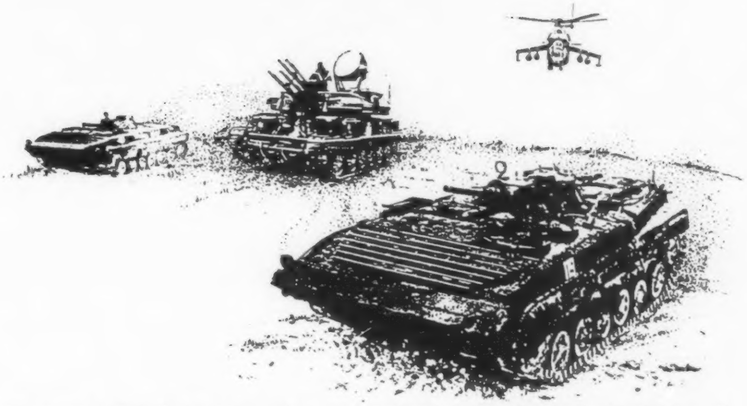
Third, we must learn to communicate critical intelligence faster. Intelligence output must be timely, succint

(Continued on page 48)

Operational IEW and the Corps Deep Attack

by Col. Leonard G. Nowak

The deep attack by a multi-division corps, supported by a numbered airforce, is the most complex and challenging of air-land battle operations. A series of dynamic exercises, conducted by III Mobile Armored Corps this past year, clearly demonstrated that the Army faces greater demands than ever before in this arena. Providing adequate Intelligence and Electronic Warfare (IEW) support is near the top of the difficult list of actions in deep attack scenarios.



First, we must be cognizant of two ground rules regarding traditional practices and deep operations in general.

Number One: Measuring times and distances from a relatively stable, linear Forward Line of Own Troops (FLOT) is no longer a viable technique to support estimative efforts during a deep attack. Essentially, the deep attack *explodes* a portion of the FLOT, driving the shattered remnants of linearity in multiple directions, and ever deeper into enemy territory. Given the probable dynamics of the battlefield, it is unlikely that battle "lines" can be maintained with anything near full integrity; instead, the battlefield will first become fragmented, then, if a sufficiently high tempo is maintained, extremely fluid. This is a critical concept to grasp, because too much of our operational-level thinking retains a distinct linear basis. In MI, we tend to retain a defensive orientation based upon habit, strongly reinforced by the fact that much of our battlefield hardware was designed with the active defense doctrine of the mid to late 1970 s in mind.

To briefly illustrate, consider this: At the corps level, we have been taught to focus on prime enemy forces when they are 72 hours or 150 kilometers distant. This would be a perfectly acceptable norm for defensive operations. But, when we strike deep into the enemy's rear, our warning lead times will be dramatically reduced. We cannot and will not fight blind meeting engagements at the operational level. To outmaneuver and defeat enemy units, we must produce and disseminate intelligence with unprecedented speed, precision and foresight under what promises to be terribly stressful conditions, for both men and machines. Corps IEW responsiveness will need to evolve to levels of flexibility and speed traditionally associated with divisions and brigades.

Number Two: We need to be extremely wary of the traditional wisdom specifying that a commander need only be interested in threat forces two echelons below his own. While it would be impossible to track every platoon or vehicle on the battlefield, collectors and analysts must be sensitive to the eccentricities of warfare. The commander at any level needs to focus on *any* enemy force positioned to adversely impact on his own deep attack. For instance, an enemy battalion or company, or even a well-positioned platoon can delay the progress of entire divisions, and, as the maneuver train backs up, the attacking corps. Similarly, we must be cautious of our habit, ingrained by our wargaming techniques, of removing "combat ineffective" enemy formations from the situation map or data base. The force that has been badly beaten and appears combat ineffective today, if left unmolested and unaccounted for, may become tomorrow's adamant blocking force, or even a lethal, local counterattack force. Assuming the complete destruction of enemy forces could create major problems along our deep attack axes. The true dimensions of this challenge only becomes fully evident, when we consider the large quantity of often contradictory data with which the analyst must cope. We need to *stress* our analysts in peacetime so they can more accurately pinpoint both current and developing threats in wartime. Certainly, many analysts might become discouraged, when told that they must track enemy formations with a fine resolution, in a radically time-compressed work environment. Additionally, analytical errors during a deep attack may leave the corps with a significantly reduced chance of recovery. During deep operations, the corps decision cycle is measured in hours, minutes and seconds. We can and must meet this awesome challenge.

The complexity of IEW support for the deep attack forces the corps G2 to approach the problem in phases. He can then responsively support the operation as it develops. General IEW actions in all phases are *concurrent* and *continuous*, though the following phased deep attack implies a sequential process.

Phase I: The Penetration. (Figure 1)

Phase I includes actions taken by air and ground maneuver assets on or near the FLOT to open a penetration.

THE DEEP ATTACK

IEW SUPPORT OF PENETRATION OPERATIONS

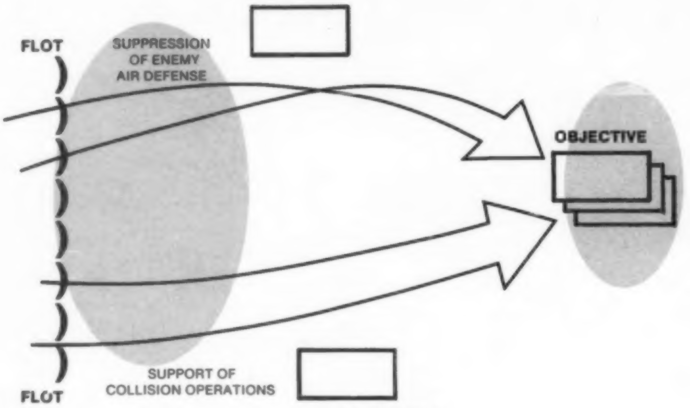

FLOT
SUPPRESSION OF ENEMY AIR DEFENSE
OBJECTIVE
SUPPORT OF COLLISION OPERATIONS
FLOT

FIGURE 1

Finding, monitoring and reporting enemy air defense systems to support Suppression of Enemy Air Defense (SEAD) operations is a continuous intelligence function. It demands responsive data exchanges between the corps and its divisions, and with Echelons Above Corps (EAC) and Air Force elements. Limited numbers of collectors are available for this key mission. Optimized coverage requires continuous, efficient coordination.

As the penetration operation's H-Hour approaches, the corps G2 must initially focus austere collection assets against those enemy systems capable of countering our air operation. This concentration of effort will result in some other relevant areas being temporarily uncovered, which embodies the risk involved as we fight our IEW systems. Since we lack the assets to provide Near-Real-Time (NRT), high-resolution support to everyone, we must intelligently weight our effort, constantly shifting our emphasis as the focus of combat shifts. We must simultaneously apply economy of force criteria in those sectors where we can best afford to take temporary risks. Accordingly, the final decision regarding such an intense concentration of irreplaceable assets rests with the corps commander.

As reacting enemy aircraft approach the FLOT, Army and Air Force suppressive fires are executed in accordance with a jointly prepared plan. Army and Air Force EW assets attack targets jointly, optimizing the employment of both lethal and non-lethal weapons systems. The corps G2 must ensure that the effects of these attacks are assessed immediately. Swift reporting through fire support channels will enable us to re-engage active targets, and prevent follow-on attacks against destroyed targets. Simultaneously, the air mission commander needs to be consistently well-informed. At a predesignated time, he must have the data necessary to decide whether to follow his primary ingress route, or to shift to an alternate route. He must also direct his attack element to destroy those enemy air defense systems that have survived our suppressive fires. In all of these actions, successful IEW operations are indispensable, if the operation is to succeed with minimal friendly losses.

Providing adequate and appropriate IEW support to ground maneuver forces during the penetration phase requires the corps G2 to spotlight his assets on the anticipated collision point. Recognizing that divisional collection assets have line-of-sight limitations (with the exception of QUICKFIX), the corps G2 weights the ground attack with GUARDRAIL and OV-1D SLAR systems, again focusing premium assets against a primary *objective* that is limited in size, scope and time.

Once the penetration has succeeded, the G2 immediately shifts his priorities to collection efforts against more critical sectors of the battlefield.

Finally, we must consider the availability of extremely austere communications assets. The following practical suggestions on how to fulfill time-sensitive requirements during the penetration phase are provided.

1. Place a Field Artillery (FA) representative in the corps Technical Control and Analysis Element (TCAE). Equip him with a dedicated TACFIRE terminal. This permits the NRT input of TCAE-produced enemy air defense data to the Fire Support Element (FSE) orchestrating the air, indirect fire and IEW attacks. An alternative would be to colocate elements of the corps TCAE

THE DEEP ATTACK

FORCE PRESERVATION OPERATIONS

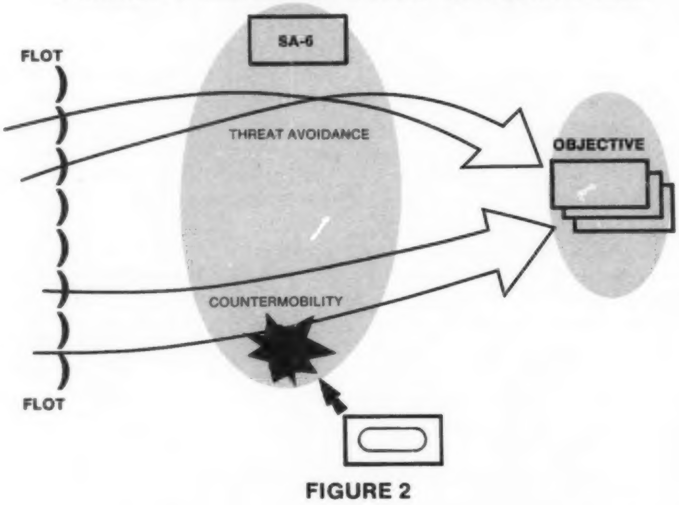


FIGURE 2

with the corps FSE, permitting close and continuous interface. III Corps, for instance, routinely assigns an additional corps FA representative to the All-Source Production Section (ASPS) to facilitate a continuous deep targeting and interdiction effort.

2. Place an Aviation representative in the corps ASPS to monitor enemy activity in the JSEAD area and along the ingress route. Point-to-point communications with the air mission commander or his monitoring headquarters streamlines the NRT reporting effort. During Joint Readiness Exercise BOLD EAGLE 86, for example, the 12th Tactical Air Force commander witnessed a critical event taking place while he visited the corps ASPS. He was then able to order immediate counter moves, using Corps Tactical Operations Center Support Element (CTOCSE) communications means. While the commander certainly cannot routinely be present, his trusted representative might be added as a member of the ASPS team.

3. Direct the 96H OV-1D SLAR observer to pass reports directly to the ground or air maneuver commander, using on-board radios. Thus, imagery read in flight receives an almost instantaneous read-out, allowing critical combat information to move NRT to the prime consumer. Further, the OV-1D orbit can temporarily be tightened to focus on a specific portion of the operational-level battlefield. This presently appears to be the best solution available for dealing with moving targets in anything approaching NRT. Although the OV-1D SLAR does not produce high-resolution, targetable locations of enemy units, it will give the commander solid indications of enemy capabilities and intentions—with critical warning provided during fluid situations.

Phase II: The Attack in Progress. (Figure 2)

To protect the force en route to the objective(s), the corps G2 must monitor enemy responses to the penetration. He needs to provide sufficient lead time for the deep attack force to avoid enemy counter blows, or to take decisive counteractions. Lacking this kind of high-resolution IEW support, attacking maneuver commanders will face a series of surprises, finding the enemy the hard way. Units that should be building momentum will be forced to sacrifice combat power to face enemy flank and rear threats. Lacking adequate intelligence support, the attacking force loses tempo and is forced to dissipate critical combat power, before it even approaches planned culminating points.

The same focusing and coordination techniques employed during penetration operations can be employed here to support the force en route to its objective(s). Broad guidelines can be drawn from the four basic tenets of air-land battle doctrine. Specifically, however, communications again become a major consideration, as the attacking force begins to stretch FM line-of-sight links, and outruns the microwave communications grid. Intelligence can still be passed to the penetrating commander's main command post, but an additional relay may be required to pass data to the decisionmaker. Timeliness, accuracy and incisive focus are absolutely critical, if we are to operate in accordance with our doctrine. Our objective will normally be force-oriented, and may have to shift as the enemy force realigns. Further, to decisively attack him, leveraging against his temporary vulnerabilities, we will rely on intelligence collection and analysis to find his center of gravity. This is especially difficult, since the center(s) of gravity may involve the invisible linkages between the various components of the enemy force or his state of mind. Also, if the commander is to accurately identify the culminating point of his own attack before his force reaches it, either temporally or spacially, he will require *aware* and comprehensive intelligence. The analyst *must* understand the dynamic interrelationships within the enemy force and between friendly and enemy forces. Today's analyst must develop a sophisticated feel for multiple dimensions of the modern battlefield.

Anticipating the difficulties we face, we need to work more closely with communications staff officers, and to rehearse the establishment and maintenance of responsive, more robust IEW linkages to the attacking commander. Practical possibilities include exploitation of the following assets:

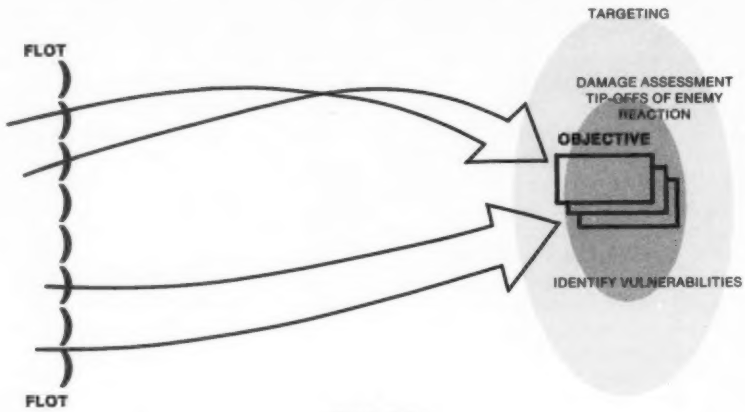
1. III Corps has RU-21 aircraft specially configured for airborne relay missions. Allocating sufficient aircraft to maintain ongoing coverage for the deep attack force is one way of solving the problem. Airborne relays can handle secure voice communications, as well as low capacity, data-link requirements, such as TACFIRE. However, the RU-21 is vulnerable to enemy air defense systems and fighter aircraft. At best, the RU-21 will need to stand off well behind the "unexploded" extent of the operational FLOT. Thus, while line-of-sight problems to the penetrating commander may be solved, radio wave attenuation, due to distance, will limit the utility of existing airborne relay platforms.

2. Similarly, III Corp's current GUARDRAIL system offers a limited communications capability, with the Tactical Commander's Terminal (TCT) located forward with the deep attack commander. Although TCT does not operate on the move, its short set-up/tear-down time makes it a useful device. Any time-sensitive messages originating at the ground processor can be relayed through the aircraft to the TCT. As with the airborne relay system, the GUARDRAIL data-link range will be a limiting factor, since the aircraft must stand off well behind the close operation area.

Phase III: Actions at the Objective. (Figure 3)

Our deep attack objectives will almost certainly be force-infrastructure oriented. Finding the enemy's *evolving vulnerabilities* on a tremendously lethal and highly fluid operational battlefield will be the primary focus of corps G2 efforts during Phase III. Within the parameters of that concentrated effort, the G2 must attempt to conduct NRT physical and psychological damage assessment, and to monitor negative synergies between the friendly and enemy forces. Concentrating on the enemy's center of gravity to destroy him is the essence of the deep attack. This calls for unparalleled professionalism on the part of all IEW participants.

The time-sensitive requirements for IEW support as the deep attack force closes on its objective are especially stringent in the case of massed helicopter attacks. Already stretching their fuel capacity to the limit, our attack helicopters will not have time to find the enemy over large expanses of terrain. Conducted deep in enemy territory, this would dramatically increase the vulnerability of our attacking rotary wing force. The danger of attacking against an enemy force that has not been specifically and confidently lo-



THE DEEP ATTACK
OPERATIONS AT THE OBJECTIVE

FIGURE 3

cated cannot be overstated. Our forces are too austere for search and destroy missions at the operational level of war. We must launch our attacks against the enemy's weaknesses, achieving decisive results at the minimum possible cost. Timely, high-resolution intelligence in support of deep attack helicopter operations is essential. We must physically, morally and psychologically dominate all meeting engagements. IEW efforts must allow us the option of declining such an engagement when the terms are unfavorable. We cannot fight a more numerous enemy head-on—we must concentrate on the flanks and rear to maximize the explosive impact of our combat power, while preserving our own force. Of special note, under the dynamic terms of air-land battle, phrases such as "flanks and rear" have not only literal, physical meaning, but may describe other aspects of the enemy's total disposition, such as C3, logistics or psychological vulnerabilities.

Complicating the G2's difficulty in supporting actions at the objective are the facts that communication links are at their most vulnerable point, and that airborne collection systems may be operating at or beyond their maximum design range, just to reach the objective area. Looking deep beyond the objective to sense enemy reactions becomes problematical. Therefore, ground-deployed collectors must be integrated into the attacking forces, providing some collection capability in the objective area. QUICKFIX-equipped divisions subordinate to the corps will have a distinct advantage. Airborne collectors in general may be the correct path that leads IEW personnel to effectively support not only air-land battle, but the looming requirements of Army 21. Presently, as long as the corps lacks remotely piloted vehicle-borne collectors, actual selection of our deep-attack objectives may be restricted by the range and capability of currently deployed, standoff IEW systems. In this sense, IEW capabilities, along with logistics restraints, may be guilty of retarding the deep attack. Our physical capabilities lag behind our doctrinal culture.

A brief note is in order here on collection systems from other services, and from EAC. Applying time-sensitive sensing, reporting and range criteria implied by the deep attack, nearly every one of these systems falls away from our consideration. The IPDS, formally TACies, initially earmarked for the corps, may become an EAC system and will if so, be hampered by processing and dissemination delays. And, while we might conceive of various fixes to help EAC systems better support corps requirements for deep attack operations, only one, the Electronic Processing and Dissemination System (EPDS), currently promises even a partial solution to the problem.

In conclusion, IEW operations in support of the deep attack require the commander to face a series of risks. First, he risks surprise in other areas, as he focuses IEW assets to support the attack. Second, he risks the degradation of communications links carrying vital intelligence forward to the attacking force. Third, he risks degrading the capabilities of critical collection systems, as the deep attack stretches ranges to the maximum. Fourth, enemy countermeasures against corps airborne systems can drastically reduce the commander's ability to see the battlefield.

As professionals, we understand that risks are inherent to combat operations. Successful commanders have a sixth sense for balancing risks to produce war-winning strategies and operational concepts. Calculated expedients and doctrinal adjustments may reduce some of those risks to a more acceptable level.

The suggestions presented here apply only to present operations. Longer term efforts to bring our capabilities into harmony with our doctrine are vital. Such efforts should include three processes. The first involves the revitalization of the TENCAP program to render it more supportive to corps operations. Second, we must obtain agile satellite communications to link deep attack forces with IEW assets designated to remain behind the line of departure. Finally, we must attempt to procure an RPV to directly support our penetration operations.

Working with organizations external to our branch, we must make incisive decisions not only about the future contours of our operational and tactical IEW efforts, but about the Army of the future in its entirety. We must strive to develop a well-rounded, deep attack capability that progressively weaves our near-term expedients into a future robust and fully-supportable warfighting effort. ★

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GRAPHIC INTSUM

by Lt. Col. Richard N. Armstrong

A Spartan general of ancient Greece could have stood on the battlefield at Waterloo and comprehended the battle within view. However, since those less complicated periods of warfare, battle areas have grown beyond the limits of human vision even aided by telescope. With bigger and more mobile armies, commanders have increasingly relied upon reports and dispatches to sense or "see" the battlefield. To help commanders understand the greater and more complex enemy situation, the Intelligence Summary (INTSUM) was devised.

Yet, few things have ever appeared to us more inexplicable than the continued tolerance for the cumbersome and untimely INTSUM. All commanders at tactical and operational levels of warfare demand their intelligence staff pass meaningful information faster than the INTSUM allows.

On the modern battlefield, the INTSUM has become little more than a historical recapitulation. Too late, with too little current value, it either lacks usable data or fails to provide a focused estimate of the situation for friendly operations. While situation and spot reports usually enumerate enemy forces and locations, they rarely assess the battle action or operation sufficiently to telegraph a threat commander's intent. The Priority Intelligence Requirements (PIR) are too general and pro forma. The identification of capabilities and vulnerabilities becomes shallow and unproductive. Assessments for operational consideration lack clarity and direction. Yet, the operational-level imperative for intelligence is to pass meaningful information on the complexities of the battle area in a timely manner.

As automation begins to speed command and control, intelligence must keep pace. Capturing the nuances of battle and seizing fleeting opportunities for exploitation necessitate the rapid identification and passage of vulnerabilities or opportunities. From the above demands came the impetus for alternatives to the written INTSUM. A graphic portrayal of the current situation immediately conveys the *dynamics* of the situation and concentrates the intelligence effort to support the combat imperatives of air-land battle.

The idea of a graphic enemy situation overlay complemented the operations overlay and promised a potential use with automated data processors linked through communications systems. But standard NATO symbology proved inadequate. These symbols lacked the versatility to show activity, density and location (always the question lower left, right or center of mass). The further problem of indicating unit capability also remained to be solved.

For a number of years now, it has been intermittently fashionable within the intelligence community to use Soviet map symbology. In fact, the FM 100-2 series, *The Soviet Army*, uses Soviet symbology. The Soviet system more adequately depicts activity, composition and disposition. Soviet graphics also allow portrayal of successive dispositions in summary graphics. For those who studied Soviet military literature and symbology, the advantages seemed immediately conclusive and certainly helped achieve a threat ambiance in operations for those who played the devil's advocate in staff estimates.

However, the use of Soviet graphics by some units revealed a number of disadvantages:

- Soviet graphics are not standard within NATO, nor throughout the U.S. Army (to include European corps and divisions).
- Basic and advanced courses of major TRADOC schools do not teach the symbology.
- Soviet symbols are more numerous, intricate in design, and require more time to master, which impacts on training.
- Exchange of overlays with adjacent and higher headquarters (to include NATO allies) is complicated.
- Other U.S. services are not familiar with Soviet symbols, causing confusion in joint operations.[1]

These significant disadvantages required that our progressive graphics initially anchor closer to the existing Army system. While maximizing utility and minimizing confusion, the Graphic INTSUM symbology proposed here is based on graphics from FM 101-5-1, *Operational Terms and Symbols*, with a minimal adaptation of Soviet techniques.

To be useful, any system must limit its number of symbols (figure 1). With a composite of symbols and a representation of the battle area, the Graphic INTSUM (figure 2) depicts current activity, locations, dispositions, objectives and significant terrain features. A concise marginal narrative keyed to graphics provides enemy strengths and weaknesses, and an assessment of the threat commander's intent. Its overall design includes a legend and marginal information, combined with the graphic depiction of the area of operation and enemy situation.[2] Selected geographic features are highlighted on the overlay to quickly orient the user. The features selected may include rivers, cities, major relief or key terrain. Care must be taken not to overly clutter the graphic. A judicious selection of features will eliminate the need to place the overlay on a map. It requires an aesthetic balance.

A critical element to fighting operationally is the ability to move around the battlefield. For this purpose, the 1:250,000 scale map works best. It portrays an operational area of interest with sufficient width and depth for a corps commander to see his battlefield and determine the room available for maneuver. This room is a judgment in time and distance, but for operational warfighting the commander needs 48-72 hours coverage in enemy movement.

Enemy unit locations and activities are depicted with a combination of graphic symbols, supplemented by a computerized order of battle listing. For example, committed enemy division locations are portrayed with a front line trace followed by the unit identification or assigned designation (figure 2a). The size and shape of the front trace will indicate the frontage occupied by the unit. It will also depict a unit partially caught in rugged or urbanized terrain, and partial advances by units across a river (figure 2b). Uncommitted units can be shown in road march or assembly modes (figure 2c). Specific threat elements, such as command posts and major weapon systems (air defense, etc.) locations will be passed on an attached MICROFIX order of battle printout. This use of MICROFIX begins to complement the advantages of automation and reduces distance errors normally made when transferring specific locations from overlay to overlay.

Depiction of the enemy unit mission capability is displayed using combat effectiveness graphics from FM 101-5-1. All factors (tangible and intangible) are considered in making the assessment, including unit strength, logistical status, morale, mission, weather and terrain. The combat effectiveness symbol is placed under the unit identification (figure 2d).

Specific problem areas within a threat unit are indicated by blacking out the appropriate quadrant of the problem area symbol and placing it under the unit identification (figure 2d). The factors one wishes to track can be assigned, depending on mission and type of threat force. Tracking fuel, ammunition, personnel and logistics are the most important for armored warfare operations. The combining of the two circles allows the quick transmittal of an assessment on the capabilities of the unit in question. The combination of the two symbols would convey an assessment, such as: 6MRD is experiencing difficulty in conducting its offensive mission, due to ammunition shortage.

Sensing the tempo of the enemy operation at the operational level is an intelligence imperative. Assisting planners and the estimate process, a projection on the limits of enemy advances (or withdrawals) on a porous, non-linear battlefield, or in breakthrough situations, can be depicted on the graphic (figure 2e). Projecting lines of enemy dispositions in 24 or 12-hour segments from "as of" time of the Graphic INTSUM in critical sectors is represented by a series of coded lines, tied to a daylight and hours of darkness bar. Charting the tempo provides insight to other intelligence imperatives at the operational level, determining scope and scale.

The heading should include a classification guidance title, issuing headquarters, "as of" date/time group, map reference and registration marks. A key to symbols can also be added for independent clarity.

Marginal data and legend are added for the identification of the subtle and key aspects of the enemy situation. The first marginal entry is the friendly commander's intent. This succinct statement is placed on the Graphic INTSUM to ensure the passage of the intent to the lowest possible intelligence echelon. It concentrates the effort of collectors, analysts and collection managers against essential and specific operational requirements.

In turn, PIR and IR are posted on the INTSUM to maintain continuity in our concentration of effort to satisfy requirements, and to quickly convey to subordinates what corps *must* know. Additionally, to effectively support the corps operational battle, the traditional PIR statements are too general. When in battle, we should know the enemy's

INTSUM GRAPHICS

XIX CORPS INTSUM as of
MAP:
CLASSIFIED BY:
DECLASSIFY ON:

LEGEND:

CDRs intent:

Priority Intell. Requirements(PIR):

1.
2.
3.

Intelligence Requirements(IR):

1.
2.
3.

Enemy Intentions/Assessment:

Enemy Strengths/Capabilities:

① Strong follow-on forces
2. Able to achieve air parity for air strikes
3. Potential for air assault on Shine R., Air Asslt Bde ready
4. Chemical warfare capability operational (2 strikes)
5. Zeibe front highest priority for air & log support

Enemy Weaknesses/Vunerabilities:

1. 46A supporting attack behind main attack, exposing flank
2. Arty ammo shortage, with stockpiles vulnerable
3. Air Defense coverage porous
4. 12 TA deployment slow, may be vulnerable to road movement
5. Zeibe river crossing damaged, shortage of bridging assets

KEY TO NOTES

2a - Unit identification.
2b - Unit frontage.
2c - Unit in road march, assembly area.
2d - Combat effectiveness and problem area symbols.
2e - Limit of advance projections.
2f - Keying numbers for strengths and weaknesses.

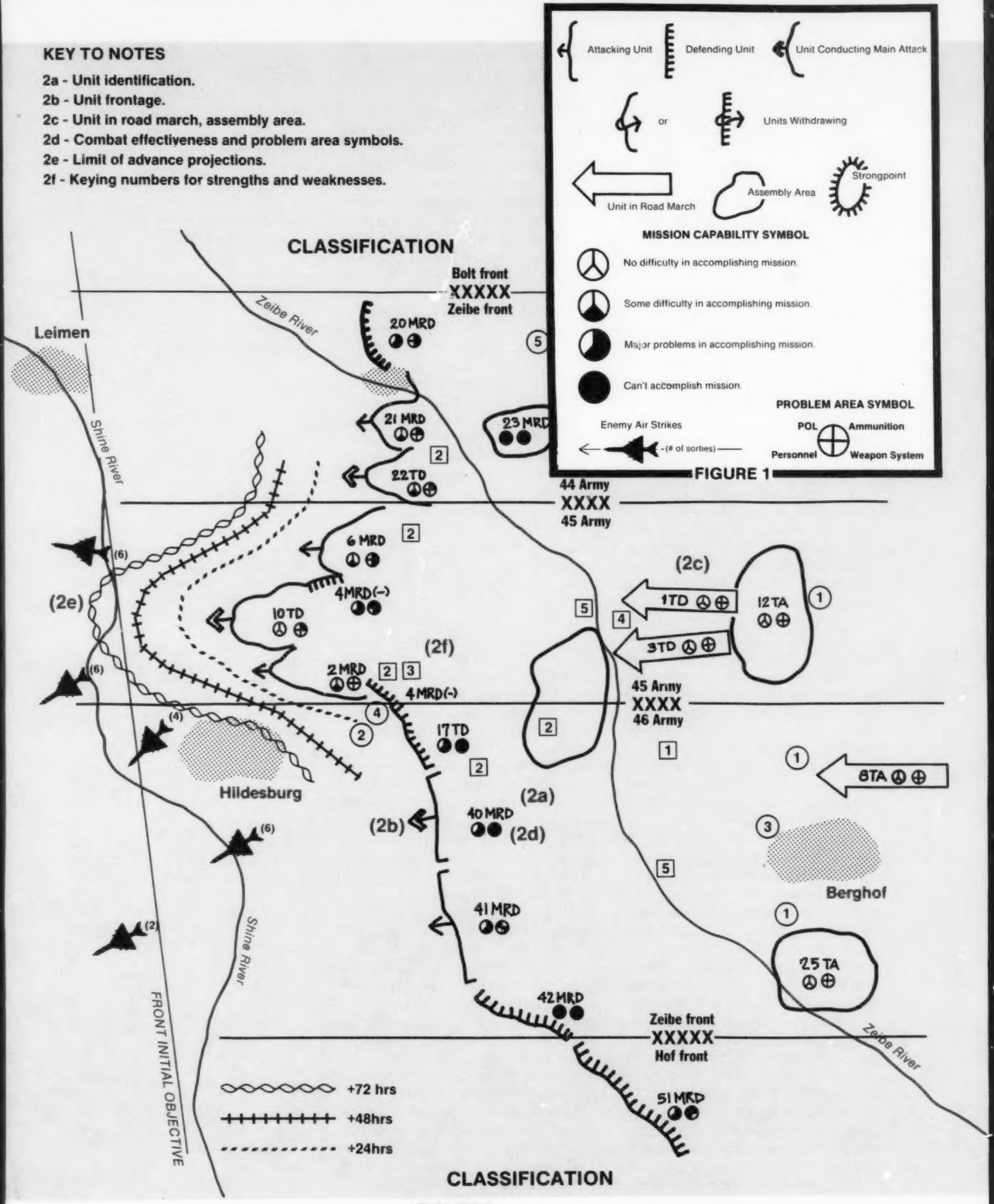

FIGURE 1

FIGURE 2

strategic situation and general intent to attack or defend. Commanders require information which is specific and essential to their decisions. Thus, PIR are written in more specific terms and linked to key points identified during the Intelligence Preparation of the Battlefield (IPB) process, such as Decision Points (DP), Named Areas of Interest (NAI) and Target Areas of Interest (TAI). For example, when lead elements of an Operational Maneuver Group (OMG) reach the road junction at DP #15, will they turn northwest or southwest? Or, will U/I tank division move to commitment along Highway 71, 244 or 188? What will be their order of march? This focusing on intelligence requirements enables the operational commander to anticipate a series of battles sequentially or simultaneously.

PIR developed to this degree of preciseness require continuous updating (based on experience, every 4-6 hours). More specific PIR require a constant posting and passage to collectors and collection managers, who must now stay closely attuned to the dynamics of the operational battle. They manage a priority of collection effort geared to meet the rapidly changing intelligence requirements. Often at the operational level, collection of significant information may be required in two widely separated directions (close and deep operations) simultaneously. IEW assets with the same agility and synchronization as maneuver forces will be marshalled to designate, sustain and shift the main efforts. Gone are the complacently managed battles of the linear defense, replaced by the dynamic warfighting of air-land battle.

"Enemy Intentions and Assessments" is an attempt to characterize the enemy commander's intent in a succinct statement. These can be fashioned as a threat commander's mission statement. It will be important at the operational level to capture the intent of key army *and front*-level commands. The threat intent should at least include estimation of the army's immmediate and subsequent objectives. This will provide necessary insight into the scale, scope and tempo of the threat's operational battle. Events by their very nature can never be static. Single assessments of events must be composed, within the context of progressive movement, to previous assessments in earlier summaries. The relationship between summaries must be examined to avoid mutually contradicting conclusions. This will prevent the undertaking of a particular group of facts as a basis for an assessment, and the subsequent discarding of the same facts without explanation.[3] Otherwise, the graphic is an enemy situation report—not an INTSUM.

Commanders have always surveyed the battlefield to seek out where the enemy is weakest. Operational commanders will choose where they want to fight. The Graphic INTSUM should focus the commander's sights on enemy weaknesses. In the past, vulnerabilities have been the physical dimension of the battlefield, principally the identification of open flanks and assailable rear areas of the enemy's maneuver forces. The Graphic INTSUM can focus on other dimensions where commanders can exploit vulnerabilities that cannot be seen through telescopes: for example, war in the electro-magnetic spectrum.

The two major aspects of the traditional INTSUM that deal with the strengths and weaknesses of the enemy force are highlighted in the marginal data, with keying numbers on the graphic (figure 2f). The relationship between activity depicted on the graphic and the identification of specific command concerns is established in the marginal data. The Graphic INTSUM forces analysts to *precisely* work the issues of strengths and weaknesses. They will not be able to bury a weak appraisal within the bulk of a written INTSUM. With these aspects highlighted, analysis must constantly consider those dimensions of the threat force which are pivotal to the commander's intent.

The Graphic INTSUM should be produced and disseminated to accompany fragmentary orders and as required by the situation. The production time of the Graphic INTSUM is less than 30 minutes for the analysts, which is considerably less than the two-hour written version. Currently, using a Diazo reproduction processor for corps-wide distribution takes about an hour. Dissemination presently requires dedicated couriers and liaison officers. Some go directly to their units, others are missing for hours. When supported by automation and modern communications, the Graphic INTSUM can be transmitted via electronic mail in seconds.

The quick distribution of the Graphic INTSUM helps to achieve a concentric view of the battle area by all in the command. Over time, the accumulation of a number of Graphic INTSUMs gives a series of "snapshots" of the battlefield. This succession of "snapshots" will facilitate the estimate process in determining important indices for the scale of an operation: width of the zone of advance tempo of the offensive and overall depth and duration of the operation.[4]

At the level of warfare where commanders can no longer survey the breadth and depth of fighting through a telescope, the Graphic INTSUM allows them to see a modern battlefield with clarity and understanding. ★

Footnotes

1. Author is indebted to G2, 1st Cavalry Division for their staff study on the use of Soviet symbology.
2. Assistance in narrative structure and special design of the Graphic INTSUM rendered by Capt. Timothy Curtis and 1st Lt. George Hermalik.
3. Marc Bloch, **Strange Defeat**, New York, W.W. Norton, 1968, p. 86.
4. Soviet doctrine has long recognized an operational level of warfare. It offers a number of valuable considerations for intelligence professionals in understanding this specific level for the U.S. Army in air-land battle. For example, see A.I. Radziyevskii, **Armeiskiye Operatsii (Army Operations)**, Moscow, Voenizdat, 1977, p. 9.

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WANTED: ANALYSTS

by Capt. Ralph Peters

Operational-level intelligence is the multi-dimensional identification of the enemy force. It includes the linkages between the potential of the force, the psychological and moral status of the force, their plans and intentions and the impact of environmental factors. *The identification of enemy intentions, strengths and vulnerabilities is the primary goal of operational-level analysis*, which must estimate synergistic effects on the total battlefield. Data and statistics on the material aspects of the enemy force is a single sub-component of operational-level analysis, and does not retain the primacy it has in the tactical intelligence effort.

Operational-level intelligence provides the corps or field army commander with the information necessary to do the following:

. . . Internally organize the friendly force for maximum combat efficiency.

. . . Upset the enemy's timetable and plan.

. . . Seize the initiative.

. . . Attack the enemy, exploiting his vulnerabilities.

. . . Destroy the enemy's offensive and reorganizational capabilities.

. . . Seize military, political or economic objectives, as directed.

. . . Protect and sustain the friendly force.

Unfortunately, we do not adequately prepare our intelligence analysts for the demands of the operational level of war. While we stress tactical intelligence training for the entry-level analyst, we do not emphasize the necessity for analysts to evolve from the tactical to the operational perspective. Intelligence skills are as apt to deteriorate over several years of service, as they are to mature. Military Intelligence officers are presently diverted into many jobs which teach them very limited, if any, intelligence work. In turn, those officers fail to encourage and guide warrant officers, who do not develop to their full potential. Enlisted analysts—a consistently underestimated and misused asset—suffer under superiors who orient primarily on peacetime day-to-day requirements, and thus do not conduct sufficiently frequent and stressful training for warfighting.

"We do not adequately prepare our intelligence analysts for the demands of the operational level of war."

This call for the development of analysts adequately trained to undergo the specific intellectual rigors of operational-level intelligence is not intended to slight the importance of the tactical or strategic analyst. We will most likely never see a fully-competent, operational-level analyst who has not served extensive time in tactical formations.

The operational-level analyst's perspective must be broader than that of the tactical analyst, his experience richer and his judgment seasoned. Given the austerity of our force structure, a critical analytical mistake could seal the fate of a heavy corps or field army. The operational-level analyst faces specific requirements that weigh more heavily at the operational level of war than at any other level.

Perhaps the most important quality in an operational-level analyst is understanding what *happens* on the battlefield, and why. The analyst must grasp both the tangible and intangible relationships which bind the component parts of the enemy force to one another. For example, what is the interrelationship between air defense missile forces, the logistics [illegible] air assets, the enemy plan, the current situation, the physical environment and the enemy's present perception of his own success or failure? The operational-level analyst must understand the scope, scale, width, depth, projected duration and objectives of the enemy's operation.

It is normally not as important at the operational level whether a committed enemy tank division currently has 187 or 193 main battle tanks remaining. A sense of the overall effectiveness of that division and how its situation fits into the tank or combined arms army situation *is* important. At the operational level, we must pay strict attention to detail—for it is sometimes the lone engineer who blows (or fails to blow) the vital bridge that could break the momentum of a corps attack. Specifics matter. The operational-level analyst, however, must deal with more intangibles than his tactical counterpart. If we intend to identify the enemy force's internal vulnerabilities, we must be sensitive to the invisible linkages that give that force its synergistic power.

The operational-level analyst must possess a far deeper knowledge of the enemy's logistics system and his supporting infrastructure. He must be able to advise his commander when the enemy's front-level ammunition stockpiles might constitute a high-value target. He must also know when efforts expended against similar stocks would be squandered. A series of field fuel depots might constitute a superb target. This loss, or even partial destruction, could deprive a tank division of fuel at a critical time, when that division may represent the likeliest reaction force against our own deep attack.

These examples may begin to provide a feel for how complex analysis becomes at the operational level. The analyst needs to develop a thorough understanding of the three-dimensional enemy force, as well as the dimensions of time and energy.

Vital to the analytic effort is a visceral understanding of the friendly force, its capabilities and limitations, and warfighting in general. This firm background allows the analyst to fully internalize his commander's intent, and to recommend specific and meaningful PIR/IR. His failure to do so will result in needlessly and unproductively diffuse actions. The analyst must learn to identify that which is truly critical at a given time and place, and to "mass" analytic efforts accordingly. The ideal is reached when the analyst grows to understand his commander so well that he can anticipate requirements.

A crucial aspect of understanding the capabilities and limitations of the friendly force is a thorough knowledge of IEW systems capabilities. The analyst must be sufficiently knowledgeable to work closely and energetically with collection managers, assisting in our effort to shift fires around the battlefield in response to the developing situation.

The requirements to assess the enemy as part of a battlefield totality, and to vigorously interact with other staff and line elements demands the development of *all-source analysts*. Peacetime training must address the integration of all intelligence disciplines.

Along with the tendency to compartmentalize by area of technical specialization, there is also a tendency in some operational-level organizations to attempt to cleanly separate the different areas of the battlefield. For instance, a corps might attempt to set up physically-separate analytical cells to cover the deep, close and rear operations, while another remote cell may handle targeting. Such a procedure, which apparently eases the analyst's burden and logically delineates staff functions, is fundamentally and fatally misguided. We cannot arbitrarily separate the different areas of the battlefield, since enemy actions in the deep, close and rear battles are interrelated. The analyst must grasp the totality of enemy actions to comprehend his intent and the contours of his plan, or to sufficiently target the enemy force. Our focus should be on the successful integration of these battle areas, especially since their boundaries may change rapidly. Certainly, in the interests of efficiency, specific analysts may be tasked to concentrate on separate actions, but these individual efforts must be collectively directed toward common goals and mutual understanding.

A manifestation of the breakdown between our doctrine within MI and the Army's air-land battle warfighting requirements lies in our overly-prescriptive approach to Intelligence Preparation of the Battlefield (IPB) techniques. IPB suffers from inadequate and overly-formalized methodology. A highly useful training technique for a school environment, it is both impractical and inappropriate for warfighting.

"We should not regard IPB as fully developed. All doctrine must be evolutionary."

We should not regard IPB as fully developed. *All doctrine must be evolutionary*. No doctrine can remain static and retain its validity. The rigorous time constraints of conventional or nuclear war will not allow us the luxury of laboriously preparing a series of intricate overlays. Extensive background work should be done in advance. On the battlefield, the analyst may be able to prepare an abbreviated decision support template before his commander must decide on a course of action. We must recognize the difference between utility in introductory training, and utility in a combat environment. Our complex analytic challenges must be transformed into simple, usable products for the commander.

The force-templating aspect of IPB can be extremely useful, if an overly-formalistic approach is avoided. The analyst educated to expect every enemy action to conform precisely to doctrine, or even to doctrine adjusted for the terrain, is apt to be unpleasantly surprised. The useful and meaningful idea of templating becomes dangerous to the friendly force as soon as it leads us into stereotype-bound thinking about our enemies. Certainly, the Soviets remain tactically more rigid than our own formations. Operationally, however, they are undergoing a dynamic period of transition. Notably, war and the complexity of the battlefield will readjust doctrinal formations in some remarkable ways.

The operational-level analyst must apply far more skill and disciplined imagination as he attempts to break down fronts and armies than he would require to break down a regiment. Suddenly, the enemy's force infrastructure assumes a dominance that was not nearly so evident at the tactical level. Even the Operational Maneuver Group (OMG) is, to some extent, the prisoner of the army or front support network—in areas as diverse as the receipt of intelligence and targeting data, to medical support or routine communications requirements. In the effort to meaningfully template fronts, armies and OMGs, there are few clean-cut patterns on which to rely. Mature intuition is usually more help than a reference book.

Even terrain, which seems so objectively quantifiable at first, takes on different military aspects at the operational level. At the battalion or brigade level, Hill 301 may be key or even decisive terrain. From the corps or field army perspective, however, terrain complexes or systems become important. Macro-areas can limit or facilitate the passage of major formations: their loss can imply the loss of control over vital road networks and communications hubs. Defensible terrain must be evaluated from the perspective of organizing a resilient, integral corps or army-level defense. Relief may be organized into complexes that function as shields, while avenues of approach often look very different at the operational level than from the tactical perspective. At any level, terrain analysis breaks down into crude assessment of where we can see, hide, shoot and move. Consider what this means when the observation, cover and concealment, range and maneuver requirements are for a heavy corps, which operates over vast distances. The operational-level analyst must know the key details and the cumulative result.

Grant's Vicksburg campaign lends credence to what can result from lack of the proper operational perspective. The final "breakout" phase has been cited in both of the last two editions of FM 100-5, *Operations*. The genius Grant displayed, from the time he crossed the Mississippi and landed at Bruinsburg to the day his forces closed on Vicksburg from the rear, was abetted by Confederate failures—the most crucial of which can be traced to areas we would today designate as intelligence responsibilities.

The Confederate military had two capable, highly professional commanders in the area of operations, Gens. Johnston and Pemberton. Neither they nor their staff officers, though, possessed the estimative qualities necessary to assess Grant's intentions. The situation was further complicated by Grant's ability to improvise rapidly and brilliantly. But, below the fate of opposing genius, the Confederates made several practical mistakes.

First, they squandered their collection assets (cavalry) in chasing Grierson's "OMG" through central Mississippi. Once Grant's army had established itself on dry ground and begun its march toward Jackson, the Confederates consistently failed to identify his operational intentions. Repeatedly, at Port Gibson, Raymond, Jackson, Champion Hill and at the crossing of the Big Black River, the Confederates elected or were forced to attempt piecemeal tactical solutions. Instead of aggressively collecting combat information with their remaining reconnaissance assets, Johnston and Pemberton continually argued, allowing Grant to retain the initiative.

Second, the Confederates conducted poor IPB. On their home ground (Pemberton was a Pennsylvanian), they did not realize where, how fast or under what conditions an army could move. They oriented on the direct approach, forgetting that, militarily, the shortest route to the objective is often the long way around. Further, as their separate forces came into contact with Grant's agile vanguards, both Johnston and Pemberton stereotypically "templated" the Union army. *Because something had never been done before and ran counter to all extant doctrine, they assumed it was impossible.* The Confederates focused on the extreme strategic and tactical pictures, missing the operational perspective entirely. As a result, their numerically superior forces were defeated in detail by a Union army operating first on exterior lines, then on virtually no lines at all, and finally from a central position (interior operational lines).

Third, the Confederates failed to grasp the dynamics at play within the Union force. Those synergies generated first by the successful surprise crossing of the Mississippi, followed by the savage battle won in the semitropical ravines outside Port Gibson and the establishment of momentum was, in turn, sustained by the inspiring effort of consistently smashing the enemy. Although Grant's rampage culminated outside the parapets of Vicksburg itself, the Confederacy in the west reached its peak when Grant crossed the river. As Grant's army closed on Vicksburg, all that remained to be settled was the tactical resolution. By July 4, 1863, Grant had that resolved.

Throughout the latter, mobile phases of the campaign, Grant and his key subordinates acted as though they had copies of FM 100-5, with particular attention paid to the discussion of the four air-land battle tenets. Consider what those tenets imply to the operational-level intelligence analyst.

INITIATIVE implies that the analyst must coordinate aggressively with collection managers. The analyst must maintain orderly, routine contact with operators, logisticians and communicators in an effort to *know* the battlefield, thus allowing him to support future plans and operations in a timely and informed manner. He cannot wait for a specific system or higher echelon to "solve" his estimative problems. He must strive to identify the enemy's center of gravity and weaknesses as early as possible, to destroy him with minimum cost to friendly forces.

AGILITY connotes that the analyst must be able to shift mental gears confidently and quickly, avoiding fixations on past events or preconceptions. The analyst must anticipate enemy intentions and actions, like the commander who must operate inside his enemy's decision cycle. He must learn to live with uncertainty, without losing his sense of purpose, his alertness or his analytical finesse.

DEPTH is the ability to understand the enemy in all of its dimensions. It is also the development of a resolute character determined to win.

SYNCHRONIZATION implies the maintenance of equilibrium within the effort, even as the concentration of effort shifts dramatically. FM 100-5 states that: "Synchronization is the arrangement of battlefield activities in time, space and purpose to produce maximum relative combat power at the decisive point. Synchronization is both a process and a result." It also implies the ability to effectively prioritize requirements. This is equally true for the intelligence soldier within any functional area.

If we in Military Intelligence are to meet the rigorous demands of air-land battle, we must carefully scrutinize current emphasis placed on the development of analytical skills in both enlisted soldiers and officers. Additionally, we need to stress the integration of our efforts within intelligence-producing organizations, and between those organizations and other staff components. IPB doctrine and methodology must continue to evolve with our dynamic warfighting doctrine, shaped by innovations developed in the field. Finally, we must not fight doctrinal holding actions in the hope that the future will not arrive on our watch. ★

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UAVs
—Where we have been

by Donald W. Cairns

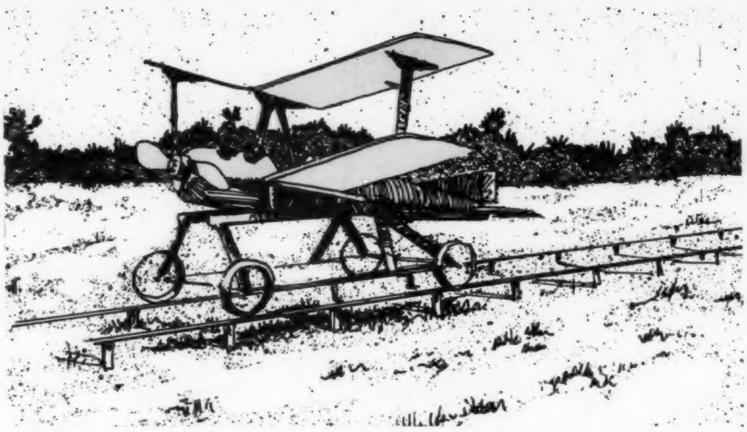
Over the past several years, numerous articles on Unmanned Aerial Vehicles (UAVs) have oriented on the success of Israel's program and on U.S. Remotely Piloted Vehicle (RPV) concepts and developments. Yet, little has been devoted to the history of the UAVs and their use by the U.S. military.

In 1915, the U.S. Army first attempted to design and launch an unmanned, powered aircraft. After three years of research by Charles F. Kettering, later of General Motors fame, the first reciprocating-engine biplane drone, mounted on a rail cart, roared into the air. The Kettering Aerial Torpedo, often referred to as the "Bug," was built for the U.S. Army Signal Corps by the Dayton-Wright company. Carrying 180 pounds of explosives and flying at 55 miles per hour with a range of 40 miles, the Bug was guided to the target area by pre-set flight controls. At the target, the wings would be released, and the fuselage would plunge earthward as a bomb. Recommendations springing from the Kettering plane led to the first successful droning of a commercial Curtiss Robin monoplane in 1928. This radio-controlled, bomb-carrying airplane floundered through the skies for four years before expiring from lack of funds in 1932.

Not until 1938 did the armed forces show serious interest in developing remotely controlled offensive weapons. Again, Kettering came into the picture, joining Gen. H.H. (Hap) Arnold to spearhead a new breed of "special weapons." Among several projects were the development of radio-controlled target planes of the PQ series, a glide bomb (GB-1), a controllable high-angle bomb (AZON), a surface-to-surface "buzz" bomb and a glide bomb known as the "Bat."

The GB-1 probably proved to be the most effective wartime experience. Utilizing a 2,000 pound demolition bomb as a fuselage, the airframe consisted of 12-foot plywood wings and twin plywood rudders. Actually, the GB-1 was the first of our modern "stand-off" weapons. Radio-controlled, they could be dropped by B-17 bombers well out of reach of highly protected areas and visually guided to the target. In 1943, a group of 54 bombers from the 8th Air Force flew a mission against the city of Cologne, carrying 108 GB-1s.

In 1944, a "war weary" program for droning tired B-17 and B-24 bombers was initiated, but soon abandoned due to the prohibitive cost of major overhaul and new configuration requirements. During this same time period, the Germans were also developing and testing reconnaissance drones at the



Luftwaffe's Rechlin Flight Test Center.

The U.S. Air Force duplicated the German V-1 "Buzz Bomb" and released it for production in the winter of 1944-45. Original plans were to employ it in the Asiatic theater, since the war in Europe was drawing to a close, but the A-bomb negated its use.

With the the conclusion of World War II, the missile program was greatly accelerated, and the Guided Missiles Section of the Air Force was formed in September 1946. From this section came the first Pilotless Aircraft Branch, the initial Project Office for later target and reconnaissance drone configurations.

In late 1946, the Pilotless Aircraft Branch was assigned the task of developing the requirements and performance characteristics for three separate unmanned aircraft to be utilized by the military as targets for various applications; low, intermediate and high performance.

While the Air Force and Navy took the responsibility for the intermediate and high performance drones, the U.S. Army contracted with the Radioplane company to satisfy the low performance criteria. This drone was called the radio controlled aerial target or RCAT. It used a McCollock engine, launched by a jet-assisted take-off (JATO) system and was recovered by parachute. It flew nearly 185 miles per hour for almost 30 minutes. The RCAT became the most fired at, low-altitude aerial target for ground-to-air antiaircraft firing exercises during the 1950s. In 1953, Col. Sam Webster, chief, Battle Area Surveillance Department, U.S. Army Electronic Proving Ground, Fort Huachuca, Ariz., installed a camera on an RCAT, transported it to Camp Erwin, Calif., and photographed maneuver forces. With these photos, DA was convinced to develop a reconnaissance drone and to establish units. By 1955, the AN/USD-1 drone (later designated the AN/MQM-57) was developed and the Aerial Surveillance and Target Acquisition platoon was established with each armored and infantry division, separate brigade and ACR. This drone employed the KA 20A camera for daytime operations and was augmented with photo flash cartridges for night operations. Then, the U.S. Army Target Acquisition Training Command, Fort Huachuca played a leading role in surveillance drone training and employment, while the Air Defense School at Fort Bliss continued to have responsibility for aerial targets.

In 1959, a drone surveillance unit was activated at Fort Rucker, Ala., to develop tactical uses for the MQM-57A drone system. Each platoon had two launchers and six air vehicles. Fort Rucker was congested with manned aircraft, however, and could not fully accommodate the drone flying. From 1959 to 1962, the platoon traveled one week each month to Fort Stewart, Ga., for drone operations training. Fort Stewart offered a wide variety of drone ranges and sufficient air space for both aerial target drone and surveillance drone training.

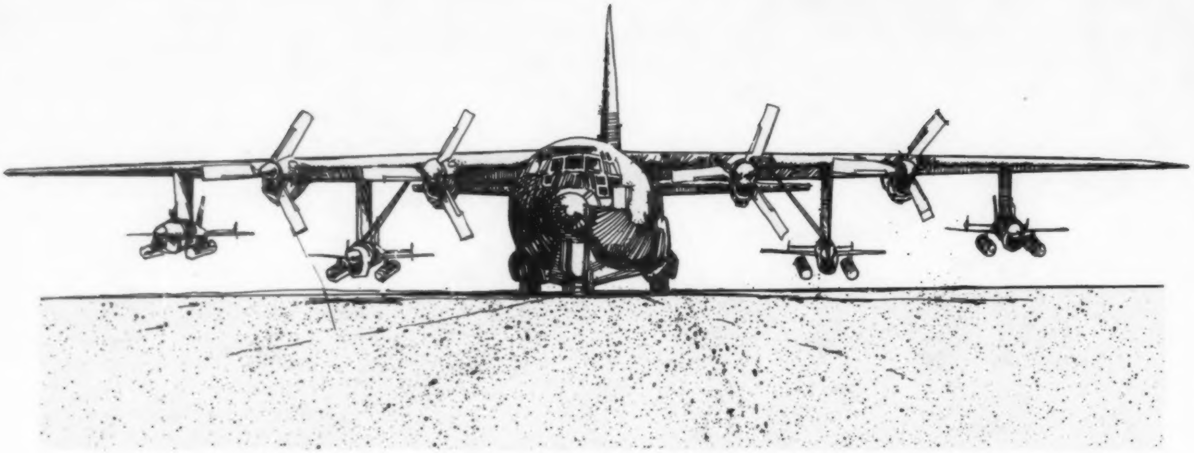
During this same period, the U.S. Army drones were deployed and flown in West Germany; however, severe frequency restrictions and lack of airspace curtailed their training activities.

Drones were never used in conjunction with manned aircraft nor permitted to operate extensively over friendly troops during maneuvers or training exercises for safety reasons. By 1963, the Army had developed the AN/MQM-58A, a more sophisticated drone with greater range, more precise navigational accuracy, extended endurance, and the capability of carrying a variety of sensors. Unfortunately, cost overruns and technical problems soon brought the drone program to a halt.

Meanwhile, the U.S. Air Force and Navy were making substantial progress. To satisfy the intermediate and high performance requirements for target drones, the U.S. Air Force, in 1948, contracted with the Ryan Aeronautical Company to develop the Q-2A. It would be launched from the wing of the B-17 and the B-29 and eventually the B-26C. Ground launch experiments started with a 4,000-foot rail. By 1958, the Q-2A had been improved into the target drone now designated the BQM-34A. In 1959, the U.S. Air Force initiated plans to convert the BQM-34A target drone to carry a camera for photo reconnaissance. The modified BQM-34A would have a range of about 1,200 nautical miles and fly at an altitude of approximately 50,000 feet. The BQM-34 was being considered as an alternative to the U-2 program. The timing was crucial: on May 1, 1960, Gary Powers' U-2 was shot down over Russia.

Within the next two years, the BQM-34As were analyzed, tested for survivability, modified for increased range and self-contained navigation and flight tested. Almost two and a half years after the U-2 incident, drones were available to support the Cuban missile crisis; however, the fledgling drone program was not committed. In early August 1964, the U.S. Air Force, with Ryan Aeronautical representatives, was directed to deploy the drone Task Force to Kadena Air Force Base, Okinawa. Surprisingly, this started an operational reconnaissance drone program in Southeast Asia that would last almost 11 years.

Prompted by the loss of a U-2 and pilot, the drone program was tasked to perform the mission of photographing atomic testing in China. Operationally, drones were mounted under the wing of a DC-130A launch plane, which could accommodate up to four drones per flight. The DC-130A would fly as close to its target as possible and launch the drone, which would fly the rest of the mission and return to friendly territory. There, it would deploy a parachute and be recovered by helicopter. By October 1964, the



drone unit had been moved to Bien Hoa, South Vietnam. On 15 November, the first drone was shot down over China. With no loss of pilot, there was little notoriety. At that time, the U-2s were operational over North Vietnam (no enemy air defense) while the drones were deployed over China. As soon as Soviet SAMs were deployed in North Vietnam, the drones replaced the U-2s, which assumed a "stand-off" mission.

Several variations of the basic reconnaissance drone were developed to take on specialized missions. An ELINT mission, under the project name "United Effort," collected the electronic information on the SA-2 "Guideline" missile. One model carried a prototype ECM payload in "Project Shoehorn" to jam SAM missiles. Over 10 SA-2s were fired before the average drone was hit. To reduce structural weight for increased flight altitude, a series of drones was designed specifically to be recovered by helicopter during parachute descent. This capability was called the mid-air retrieval system (MARS). Other drones were modified as decoys, and several MIGs ran out of fuel while in pursuit.

By 1967, at an altitude of 75,000 feet with a flight endurance of four and a half hours, the 147T drone was capable of photographing a strip 22 miles wide by nearly 800 miles long. By the end of the Vietnam war, drones had been developed with a TV camera in their nose with a zoom lens to transmit images of the terrain ahead. On the wing of the drone was mounted a HOBO or Maverick electro-optical seeking missile.

During the Vietnam war era, there were 28 models of drones developed. They collectively flew a total of 3,435 missions. The most flights from a single drone was 68, and the percentage of successful flights grew to 96.8%. See **Lighting Bugs and other Reconnaissance Drones** by William Wagner, for a comprehensive account of the Vietnam drone story.

During this same period, the U.S. Navy's UAV program was also enjoying success. In addition to designing drones for target practice, the Navy initiated a surveillance and target acquisition effort, using the Teledyne BQM-34 (Firebee). The QH-50C (Dash Program) was developed to deliver torpedoes against barrage traffic from North Vietnam. This helicopter RPV carried a TV and two 250-pound torpedoes. Despite some initial problems, the program was reasonably effective. With the TV alone, the QH-50C served as a spotter for gunfire from the destroyers. However, the helicopter was transformed into a dynamic lethal weapon system when mounted with a machine gun.

In 1972, the U.S. Army Intelligence Center and School, Fort Huachuca, renewed interest for a surveillance and target acquisition unmanned aerial platform. Lockheed was awarded the contract to develop the RPV (Aquila). Due to its short range of 25 to 30 kilometers beyond the forward line of own troops, however, it appeared to be more suited for artillery and target acquisition. Therefore, proponency for development was transferred to the U.S. Army Field Artillery School.

In addition to the extensive development of drones and RPVs by the United States, many other countries to include the Soviet Union have similar systems. Their UAVs include numerous capabilities, and several countries have operational systems.

The history of UAVs is a success story. Despite problems, during a period when 90% of the Americans who became prisoners of war were downed pilots or crewmen, RPVs returned precision intelligence deep within enemy territory—without risking the lives of those "flying" the drones. They flew their missions at a fraction of the cost of manned reconnaissance aircraft, whether measured in dollars, lives or political risk. RPVs were used to collect targeting data for numerous bombing campaigns over North Vietnam and to help locate POW camps. Indeed, it was an RPV photo that finally confirmed the existence and location of the Son Tay prison 21 miles west of Hanoi, from which the United States tried to free its prisoners in a dramatic 1970 raid. They provided bomb damage assessments after attacks on heavily defended targets, dropped propaganda leaflets and ferreted out electronic intelligence on the Soviet air defense systems.

During the past few years, there have been numerous studies, plans and requirements for UAVs to perform virtually every possible military mission. As we confront the future and the development of UAVs, we must remember and learn from the past. ★

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CELTIC CROSS IV

by Lt. Col. Spence Campbell

Celtic Cross IV (CCIV) was the final phase in the certification of the Army's light infantry concept. As G2, 7th Infantry Division (Light), I spent two weeks orchestrating organic and supporting intelligence assets to provide the commanding general and his subordinate commanders the intelligence necessary to defeat a formidable OPFOR. Intelligence subject matter experts took advantage of CCIV to evaluate the division intelligence organization.

The light infantry division concept was developed to provide the Army a capability to confront low to mid-intensity threats throughout the world. The light division has approximately 10,000 soldiers and can be moved in nearly 500 C-141 equivalents, when compared to 55 percent and 30 percent, respectively, of a standard infantry division's manpower and movement requirements. The division's MI Battalion has approximately 300 personnel, compared to about 500 for non-light divisions. It has a ground-based SIGINT element, CI and IPW element and an aerial ESM/ECM platoon (QUICKFIX). No ground-based jamming or ELINT capability exists within the division. See "Evolution of the MI Battalion in the Army of Excellence," ***Military Intelligence***, April-June 1985, for a review of the structure of the light division MI Battalion.

While the CCIV scenario was designed primarily to test the division's combat service support structure, it included an extensive OPFOR designed to replicate a low-intensity environment, which transitioned to mid-intensity. The scenario called for the division to deploy in response to a nearly successful guerrilla effort to overthrow the government of a third world nation friendly to the United States. The guerrillas were supported by a Marxist state located to the north of the U.S. ally. A conventional brigade consisting of two infantry battalions (dismounted), an armor battalion task force and an armored reconnaissance troop was configured to invade, should the guerrillas not be successful, or should the United States provide direct support.

Essentially, there were two phases of the CCIV conflict. Upon arrival in country, the division faced an insurgency which was about to overthrow the friendly government. The immediate focus of the battle's first phase was neutralization of the guerrilla infrastructure, and defeat of the guerrilla forces. However, the conventional force just north of the border posed the major threat to the division. The division's first objective was to position itself northward, to counter a potential mechanized/armored invasion. Once prepared for the eventuality, combat resources were committed to face the insurgency. We would need up to five days to defeat the guerrillas before the conventional force could invade.

After conducting extensive IPB, the MI Battalion commander and I determined that the standard practice of providing a "slice" of the battalion's assets in direct support of each brigade would not enable us to concentrate on the threat to the entire division. In view of the activation of a Rear Area Operations Center, we would have to stretch the battalion's limited resources even further, if we used a direct support concept. The battalion commander decided to place his assets, including QUICKFIX, in general support of the division. Based on the threat, he organized two company/teams: a SIGINT-heavy company whose primary focus was the conventional threat in the north, and a HUMINT-heavy company whose primary effort was the guerrilla threat throughout the country.

The division initially emphasized interface with host nation personnel, who provided current information on the insurgency. CI personnel attempted to exploit prisoners and civilian detainees to further develop the guerrilla infrastructure. CI and IPW personnel were dispatched to the Division Support Area to screen and interrogate significant sources.

Meanwhile, IEW assets in a general support role were moved as far forward as possible prior to the conventional attack, and placed at positions determined by our IPB process. CI/IPW personnel were placed at EPW sites in the Brigade Support Areas. We also realized that, due to the significance of the conventional threat, we would need ground-based jammers to support QUICKFIX and neutralize the SIGINT threat to the division. We requested corps support, and a platoon of AN/TLQ-17s was available at D+8

Subsequent adjustments to initial deployments were made, based on the evaluation of the threat as determined by the all-source analysis effort and continuous coordination with the division operations officer. The Brigade IEWSEs ensured that CI platoon assets in brigade sectors were supported by the brigades and facilitated passing of information collected by the company elements to the affected Brigade S2s.

Protection of the battalion's assets while maximizing collection through forward deployment was a challenge, since corps support was very limited. LLVI teams, for instance, were transported by helicopter with the infantry units they were to support. In some cases, battalion GSR teams moved with the infantry for extensive distances to avoid detection and continue their support. The results were especially significant. Throughout the battle, MI Battalion personnel successfully demonstrated their ability to operate under extremely hazardous conditions.

(Continued on page 48)

Defining Political Terrorism

by Capt. Brian R.E. Miller

Terrorism has become a significant threat in the contemporary world. In 1982, the U.S. State Department published a report citing the occurrence of over 7,400 significant terrorist incidents over a 14-year period. These attacks resulted in the deaths of 3,841 people and the wounding of 8,298 others.[1]

The trend of increasing violence has dramatically continued. A majority of the more serious attacks have occurred in the western democracies, since the totalitarian controls that exist in the eastern bloc nations severely constrain political expression. Michael Pilgrim concisely describes the challenge that terrorist groups pose to modern society: "Terrorists, through the use of selective, yet often indiscriminate violence, have been able to force governments to negotiate and often grant concessions to their demands. They have been able to attract worldwide attention to themselves and their goals. Terrorism has forced governments to expend vast amounts of time and resources on security."[2]

The term "terrorism" has been applied to such divergent acts as Stalin's purge of Soviet society in the 1930s, the insurgent attacks on the governments of Guatemala and El Salvador in the early 1980s, and the more recent international hijackings, bombings, assassinations and kidnapings. Many theorists have wrestled with the problem of defining terrorism. Walter Laqueur offers the following: "No definition of terrorism can possibly cover all the varieties that have appeared throughout history. Peasant wars, labor disputes and brigandage have been accompanied by systematic terror, and the same is true regarding general wars, civil wars, revolutionary wars, wars of national liberation and resistance movements against foreign occupiers. In most cases, however, terrorism was no more than one of several strategies, and usually a subordinate one."[3] Laqueur contends that a comprehensive definition of terrorism does not exist. One of the major obstacles to arriving at a generally accepted definition is that governments, political parties and factions do not accept one common political ideology: one man's terrorist is another's freedom fighter.

To furnish an appropriate definition, one must first distinguish between terror from above, and terror from below. Terror from above is political violence practiced by a government against its own subjects. This enforcement terror is used by the regime to ensure compliance with the state's established rules. The regimes of Stalin and Hitler employed massive secret police forces to terrorize the population. The people of Germany and Russia enjoyed virtually no legal or constitutional protections to shield them from the state security apparatus. Thousands were arbitrarily executed or thrown into labor camps.[4]

Terror from below is practiced by those individuals or groups that are not in power. This agitational terror is used as a tactic to disrupt state authority and ultimately overthrow the state. Terror from below involves the coercive use or threat of violence to intimidate the target audience. Jan Schreiber emphasizes the political nature of terrorism: "We can define terrorism as a political act, ordinarily committed by an organized group involving death or the threat of death to noncombatants. What makes the terrorist act political is its motive and direction: it must be the intent of the perpetrators to harm or radically alter the state."[5]

Extremist political groups use terrorism from below as their main weapon to achieve their goals, and primarily target innocent civilians with their political violence. Gazit and Handel aptly describe the objective classification of terrorist groups: "Moral warfare drives at attacking only government officials, armed forces and the police. It tries, as best it can, not to inflict casualties among noncombatants. Immoral warfare does not hesitate to take action against innocent civilians. Often, action is deliberately concentrated almost entirely against such soft targets."[6]

Terrorism is certainly not a new occurrence. The use of violence to coerce political behavior has been used throughout history. Walter Laqueur has described terrorist groups that existed in the first century A.D. More recently, in 19th century Russia, numerous anti-Tsar terrorist groups conducted campaigns of political assassination. One of the most important movements during this era was the Narodnaya Volya, which succeeded in killing Tsar Alexander II in March 1881.[7] Only active from 1879 to 1881, this group set the pattern for later political terrorists by attempting to justify their violence by writing lengthy ideological tracts. These political pronouncements described the reasons for assassinations of government officials and explained what type of political system they were fighting for.

There are five basic reasons why terrorism has expanded into a current, significant threat. The first major reason is the complex international political structure that provides terrorist groups with bases, sources of funding and personnel. Some contemporary analysts argue that the current terrorist offensive of the last 20 years is sustained by the existence of a terrorist network. It consists of a core of eastern bloc states that train, arm and finance anti-western terrorists and guerrillas. The second facet of this network is a group of third world states that receive aid from the Soviet bloc and, in turn, provide sanctuary, training and weapons for terrorists. Included are Libya, Iraq, Yemen, Cuba and North Korea. The third facet of the network involves cooperation and coordination between terrorist groups themselves.[8]

Despite the numerous connections between terrorist groups and the Soviet Union, hard evidence that the Soviets control international terrorism is lacking. Soviet support for third world terrorist organizations is well documented public knowledge. However, there is also evidence that links the eastern bloc to Western European urban terrorist groups.[9] Yonah Alexander describes the Soviet perception of terrorism: "Terrorism, whether backed directly or indirectly by the Soviet Union or independently initiated, is an indispensable tactical tool in the communist struggle for power and influence within and among nations. In relying on this supplementary instrument, Moscow aims at achieving strategic ends when the use of armed might is deemed either inappropriate or ineffective."[10]

The second factor that has contributed to the expansion of terrorism is the development, proliferation and availability of smaller and deadlier weapons, such as the Soviet RPG-7, SA-7 and American Stinger. Light, reliable and concealable automatic weapons and explosives have allowed small, clandestine terrorist gangs to cause considerable amounts of damage to selected targets.

The third causal factor is the vulnerability of modern industrial society to dislocation by organized violence. Urban societies rely on complex transportation and communications systems, energy production facilities and other technical devices to operate efficiently. Urban terrorists prey on this dependence to cripple a targeted city.

The fourth and closely related factor is the exploitation of the media by terrorists to publicize their cause and instill fear in the target audience. Modern media, utilizing real-time satellite relay communications systems, can reach a worldwide audience. An early example of terrorists manipulating the media was at the 1972 Munich olympic games. Walter Laqueur highlights the importance of the media in achieving terrorist goals: "The success of a terrorist operation depends almost entirely on the amount of publicity it receives. This was one of the main reasons for the shift to urban terror in the 1960s; for in the cities, the terrorists could always count on the presence of journalists and TV cameras, and consequently a large audience."[11] In the final analysis, the publicity that a terrorist act receives greatly enhances the impact of the actual physical destruction.

The fifth and final factor in the equation of increasing extremism is a unifying terrorist belief that violence is the only strategy for accomplishing their goals. In the 1950s and '60s, selected writings of authors such as Herbert Marcuse and Frantz Fanon gave the perception of ideological justification to terrorists of the New Left.[12] Fanon expounded on the "liberating effects" of anti-colonial violence in the third world. Marcuse and others complained about the exploitative and repressive nature of modern capitalist society. These two themes were merged by young leftist activists into a philosophical blessing for terrorist attacks on capitalist/imperialist targets. The United States, which was fighting a "colonialist war" in Vietnam, was singled out as the primary enemy. The democracies of Western Europe were perceived as willing accomplices in America's "imperialist machinations." This ideology was translated into the terrorist activity that began in the late 1960s.

Political ideologies among terrorist groups differ. Their violent tactics, however, are mutually shared. The only common ideology of terrorist groups is the rejection of peaceful avenues to political change and the subsequent adoption of violence. Action has superceded the underlying ideology as the most unifying factor.

Since 1982, marxist terrorist groups in Western Europe have increased their coordination of attacks and mutual support, particularly in France (Direct Action), Belgium (Communist Cells) and the Federal Republic of Germany (RAF). Fortunately, these groups have not been able to co-opt a significant segment of the moderate left into widespread, violent protest activity. However, their ongoing campaign of violence against their own governments and U.S. targets continue to capture headlines and cause casualties. NATO member states

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ELECTRONIC INTELLIGENCE VS TERRORISM

by Gary D. Strohm

According to a study prepared for the House Committee on internal security, between 1968 and 1973, there were more than 400 individual acts of terrorism in which terrorists crossed international borders to attack, or in which the victims in these incidents were selected because of their affiliation with a foreign state. Current incidents indicate that this trend is continuing.

Perhaps the best indicator of the seriousness of the terrorism problem is the degree to which the perpetrators in these seemingly unrelated incidents are frequently members of organizations with mutual links. Several have indirect ties to countries such as the Soviet Union or Libya. A Central Intelligence Agency (CIA) study quoted by Claire Sterling in **The Terror Network** stated: "Over 140 terrorist bands from nearly 50 countries or disputed territories were connected in some way to one another by 1976."[1]

Sterling's book cites numerous examples, including; "guerrilla training camps, thefts and shipments of arms, stolen and forged documents, safehouses, safe passage in transit and sanctuary abroad, regional summit meetings, hot-money laundering services, straightforward cash transfers, swapping of cadre, and contract killers borrowed from the criminal underworld."[2]

Unfortunately, dealing with terrorist organizations is not as easy as the description may suggest. Not all terrorist organizations have easily identifiable ties to specific countries, nor are all terrorist victims government officials or executives of multinational corporations. The actual victims of terrorists are usually groups of tourists or innocent bystanders.

These terrorist organizations are often composed of small groups whose ties are difficult to establish. The diversity of their targets and lack of any easily detectable organization make the detection and prevention of terrorist activity extremely difficult.

The State Department and CIA offer the following definition of terrorism in their annual reports: "The threat or use of violence for political purposes by individuals or groups whether acting for, or in opposition to, established governmental authority. . . to shock, stun or intimidate a target group wider than the immediate victims."[3] This statement is applicable to many international groups, both governmental and non-governmental. The definition causes much debate over which groups should be considered terrorist organizations, and which are attempts by the citizens of a country to overthrow an oppressive government. One distinction is the difference between the group which feels the actual violence of the acts, and the group or nation whose behavior the acts are designed to influence. A recent example is the hijacking of TWA Flight 847, in which hostages were held in an attempt to press Israel to release Lebanese hostages taken earlier in Israel's occupation of Lebanon. This distinction, which is sometimes difficult to determine, makes the availability of useful information on the organization all the more vital.

While authors may not agree on consistent terminology, one facet of counteraction agreed upon is the importance of intelligence. Dr. Rudolf Levy, former Intelligence and Counteraction instructor at the U.S. Army Intelligence Center and School, Fort Huachuca, Ariz., has expressed the following contention: "Intelligence serves as the basis of all terrorism counteraction efforts. All subsequent steps, such as threat analysis, prevention, planning and crisis management, are directly dependent on timely and accurate intelligence. . . . To conduct successful counterterrorism and antiterrorism operations, it is absolutely essential to know the political, social, psychological, ideological and economic factors that may be involved in the motivation of the individual terrorist or terrorist groups."[4]

"The diversion of their targets and the lack of any easily detectable organization make the detection and prevention of terrorist activity extremely difficult."

Dr. William Waugh, in his book entitled **International Terrorism**, agrees: "Complete information is not possible, even under the best circumstances. Nevertheless, as the completeness of intelligence increases, the probability of an effective and appropriate response to terroristic violence improves." The advantage of an effective intelligence apparatus is that "prior information permits a government to set its agenda of response, allowing it to focus its resources where and when they will do the most good to obstruct terrorist operations."[5] Brian Jenkins of the Rand Corporation summarizes the problem: "The dilemma is that terrorists can attack anything, while governments cannot protect every conceivable target against every possible attack."[6] Col. Charlie Beckwith, the first commander of the U.S. Army Special Operations Delta Force, stated in his novel **Delta Force**: "The vital importance of good, sound intelligence cannot be stressed enough. Without it there is nothing, with it there is something. It's the difference between failure and success, between humiliation and pride, between losing lives and

"An overabundance of information is useless without the proper analysis and interpretation: intelligence personnel must be thorough, yet selective."

saving them. Intelligence is to special operations as numbers are to a mathematician. . . . It's important to be able to predict a terrorist action before it occurs. People in government I remember, laughed when the subject of predictive intelligence first surfaced. If the terrorists can be cut off at the pass, it might not be necessary to circle the wagons."[7]

The voluminous information concerning terrorist activities must be understood and processed, if the actions are to be appropriately countered. Schlomo Gazit and Michael Handel describe the types of intelligence that must be gathered on terrorists in an article written for the National Defense Univ.: "The ideological and political system - understanding the ideological base and how it functions will give important clues that may point to vulnerabilities and susceptibilities. The organizational/operational infrastructure - it is obviously important to understand the organizational system, mechanism and resources which allow a terrorist group to operate. The operational activities of the organization - these are the clear and immediate hazards posed by a terrorist group, and it is vital to obtain the maximum possible advance indications and warnings of specific terrorist operations and to identify targets for counteraction. The support infrastructure - this element is distinguished from the organizational/operational infrastructure because it is comprised of the civilian support base, and undermining this base could cripple a terrorist group. International connections - for many terrorist groups, assistance received from outside sources is absolutely necessary, and intelligence on this aid is definitely important."[8] Remember that an overabundance of information is useless without the proper analysis and interpretation: intelligence personnel must be thorough, yet selective.

While all terrorist incidents occur within the jurisdiction of some local law-enforcement agency, most local agencies are not suitably equipped or trained to shoulder the entire responsibility for dealing with terrorists. This type of criminal activity across jurisdictional boundaries is better suited to management by federal authorities, with cooperation and exchange of information between the local and federal agencies when appropriate.

Furthermore, local agencies are not tuned to the subtleties of political ideologies. The jurisdictional restraints imposed upon local agencies, national as well as international, render it impractical for them to be primarily responsible for information gathering, other than within their respective jurisdictions.

The majority of the responsibility for gathering information on terrorism in the United States has fallen to various federal agencies. President Reagan, in his Executive Order 12333 of December 4, 1981, assigned to the FBI and CIA primary responsibility for coordinating efforts conducted within and outside the United States, respectively. The order addresses coordination of multi-agency efforts and primary responsibility for various intelligence functions with one exception - the National Security Agency (NSA). Its responsibility is defined as follows: "Establishment and operation of an effective unified organization for SIGINT activities, except for the delegation of operational control over certain operations that are conducted through other elements of the intelligence community. No other department or agency may engage in SIGINT activities except pursuant to a delegation by the Secretary of Defense."[9]

As society continues to rely more on advanced communications technology, the SIGINT activities delegated to NSA occupy a more important role in intelligence efforts. Technical collection efforts are emphasized because of the enormous quantities of information they are capable of processing.

Since its creation by President Truman in 1952, NSA has occupied a significant position at the forefront of computer science research. Charged with the responsibility for communications intercept and protection, NSA has overtly and covertly conducted and sponsored ongoing research designed to keep it ahead of the private efforts in communications technology. This research responsibility has provided NSA and other agencies with their greatest authority for intelligence gathering.

The Foreign Intelligence Surveillance Act (FISA) requires NSA to obtain a court order for most cases of electronic surveillance initiated within the United States. However, a portion of the act contains provisions for conducting electronic surveillance not targeted against any particular person for up to 90 days, "for various testing purposes," without a court order. The possibilities for abuse permitted by this section was explained by David Watters, formerly with the CIA's Communications Research group to the Senate Intelligence Committee on February 8, 1978:

"There exists only one category of wiretapping equipment or system which requires up to 90 days for test and adjustment, and that system is broadband electronic eavesdropping equipment, the vacuum cleaner approach to intelligence gathering, the general search of microwave trunk lines. An ordinary single-line wire tap requires only five minutes to adjust and test."[10]

Consequently, those less technically knowledgeable may become quite concerned about the possibility of the random invasion of privacy by such testing. The vast number of microwave radio and telephone circuits which can be intercepted make it impractical for NSA to do anything but pass over routine conversations, only sampling for certain keywords which may indicate suspicious activities. The automated process by which microwave circuits are sampled can also pinpoint the suspicious areas (e.g., circuits originating close to foreign embassies), further decreasing the number of innocent conversations which may be swept over.

While the communications authorized under the FISA are primarily for foreign intelligence purposes, the act contains provisions authorizing information to be passed to law enforcement agencies when it concerns a crime. In dealing with communications related to terrorist activities, however, this provision is unnecessary, due to several definitions relating to foreign intelligence. The FISA, while requiring court orders to intercept communications involving U.S. citizens, includes persons engaging in terrorism activities in its definition of "agent of a foreign power." For the purposes of electronic surveillance, such persons are effectively treated as foreign agents, not requiring a court order for their communications to be intercepted. This capability enables NSA to effectively collect information regarding planning for future terrorist activities, and identify the perpetrators of past acts. To be most effective, however, the information must be analyzed and disseminated to the state and local agencies which can most benefit.

In addition to assisting in communications intercept, technical resources can be used in a variety of ways to gather information about terrorist activities. Computerized personnel files containing records about a specific individual or group could be compared. Local law-enforcement authorities often inquire at post offices and utility companies to determine the location of specific residents. In some states, a list of prospective jurors is derived from state drivers' licenses or vehicle registration records to determine county residents. Police departments are able to identify threatening telephone callers through cooperation with telephone companies recording the originating number. This same capability exists in many of the "911" emergency telephone number centers that determine the address of persons requesting emergency assistance. In cities having the telephone switching systems necessary for touch-tone dialing, the process can be manually completed in less than one minute. In cases anticipated in advance, such as court-ordered surveillance or harassing telephone calls, the telephone computers can be pre-programmed, making the process nearly instantaneous upon the completion of a call.

A less-restrictive, yet carefully monitored procedure to share computerized records is needed. This network of sources should include telephone and utility companies, financial institutions, transportation carriers and records of firearms and ammunition purchases.

The FBI's National Crime Information Center (NCIC) maintains records of wanted persons, stolen vehicles and license plates, stolen securities and criminal history information. In addition to maintaining records in a form accessible by nearly every U.S. law enforcement agency, it also maintains transactional records of every file inquiry. Local police often check license plates of vehicles parked at motels in an attempt to locate abandoned or stolen vehicles. The strategy frequently pays off. By comparing motor vehicle registrations of known or suspected terrorists with the license plate numbers parked at selected locations, it seems possible to covertly "track" suspected terrorists.

This strategy of comparing information involving various known or suspected terrorists would, in effect, establish watch lists similar to those employed by NSA. The NCIC also maintains a more overt type of watch list, primarily for use by the Secret Service. Referred to as the Secret Service Protective File, it contains the names of individuals considered to be possible threats to the president and other government officials.

Covert, technical information gathering on suspected and known terrorists protects the information from the suspects. Thus, enough specific information about an individual or group can be accumulated to obtain arrest warrants. Thomas Powers writes: "Secret information is only useful as long as its acquisition remains secret. Once an opponent learns what you know, its utility either ceases altogether, or diminishes very greatly."[11] The necessity for keeping certain facets of these operations confidential should not conflict with the public's right to know that such programs exist. The knowledge that such programs do exist could also serve as a deterrent to any terrorist groups contemplating activity in a given area.

While technical collection strategies for gaining terrorist-related information have their advantages, they also have a less desirable aspect: invasion of privacy. Precautions need to be taken to guarantee that collected information does not infringe upon suspects' rights as citizens. These methods must include appropriate safeguards to ensure that the information collected is not misused or misinterpreted. Such safeguards already exist in our present legislation. The Security and Privacy Act contains a prohibition against the collection of information regarding "how any individual exercises rights guaranteed by the First Amendment unless pertinent to, and within the scope of an authorized law enforcement activity." The federal regulations dealing with intelligence systems contain similar restrictions on the types of information that can be collected. Additionally, they require that any dissemination of information include an evaluation. Withholding the existence of specific intelligence from the subject exists in the Security and Privacy Act, which exempts "information compiled for the purpose of a criminal investigation including reports of informants and investigators, and associated with a specific individual."

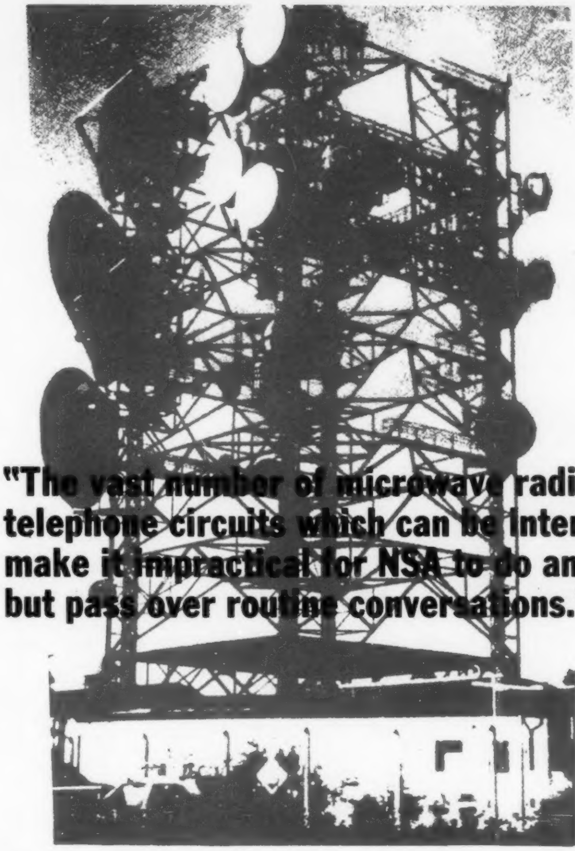
Most sources for possible abuse of this strategy have to do with the difference between gathered information and analyzed intelligence that can serve as a useful basis for some action. Lt. Col. Richard Armstrong in an article published in ***Military Intelligence***, July-September 1984, described intelligence as: "not information alone, but also judgment. Finished intelligence cannot be gathered by collecting; it must be produced from analysis."[12] The same process involved in the transformation of raw information into intelligence can also serve as a safeguard to prevent the inappropriate use of the information.

Some of these safeguards can actually be programmed into the collection apparatus. Just as NSA computers are currently programmed to choose conversations for further analysis based on certain keywords or telephone numbers, the establishment of a pattern of possible terrorist activity can be based on similar criteria. As with the current procedure for determining the priorities and targets for SIGINT activities, the files to be used in the comparisons and the criteria should be determined initially by an inter-agency panel of representatives. The panel's findings should additionally be subject to the approval of a court similar to that required to obtain a court order for other types of surveillance. To simplify the problem of educating the judicial branch in enough depth to enable them to make an informed decision, the same federal court which issues the court orders for FISA surveillance could be used.

The panel, with initial judicial approval, would assign a subject an "importance level," based on the possibility of terrorist activity. The panel would also determine the quality of importance over time, and assign value accordingly. This would place outdated, isolated events in proper perspective.

Analysts can determine which individuals deserve consideration by printing a list of each individual's importance above a certain level. The relative position on this list would thus indicate the degree of reliability of the file comparison information. The responsible agencies could thus focus their resources more efficiently in tracking the higher-probability individuals.

Some changes and additions to existing legislation would be necessary to implement the procedures described here. The FISA, which contains a section mandating communications carriers' cooperation with SIGINT activities, would need to include agencies to which file access is found necessary by the approving court. The sections of the FISA which address the release of SIGINT information for law-enforcement purposes should be amended to require that any information obtained through these file comparisons not be released outside the collecting agency without an analyst's summary. These safeguards would prevent misinterpretation of innocent activities. The requirements for prior written authorization of the attorney general for the use of SIGINT information in a criminal proceeding should require approval of the format in which the information will be released and presented. This would ensure that the proper analytical assessment of the information is included to keep any data collected in the proper context. The amendments to the FISA or other similar legislation should require a periodic mandatory review of the entire collection process, including files being used and the various value assignment criteria. This would ensure an accurate reflection of the anti-terrorist use for which this strategy has been proposed.



"The vast number of microwave radio and telephone circuits which can be intercepted make it impractical for NSA to do anything but pass over routine conversations."

These collection strategies should successfully produce their desired effect, thus enhancing the ability to counter terrorist operations, while minimizing the adverse effect of privacy invasion. With careful implementation and more emphasis on information analysis, the more desirable effect can be achieved without the inconveniences and intrusions feared by some. ★

Footnotes

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INSURGENT
PRINCIPLES OF WAR

The insurgent fighter is rarely thought of as acting according to strict doctrinal rules—Principles of war provide a framework for the study of this elusive foe.

by Capt. Guillermo Rodriguez

Modern insurgent doctrine demands careful analysis. Although their methods seem unorthodox, insurgents maintain clearly defined, flexible goals and adhere to specific strategies and tactics.

Low intensity conflict (LIC) is the form of conflict our nation will most likely be involved in during the foreseeable future. Of the various forms of LIC, insurgencies pose the greatest challenge. Politically organized insurgencies (POIs), the most difficult to defeat, maintain a complex political and military structure. They are led by highly motivated cadre which, in many cases, adhere to the concept of "protracted struggle."

There is a paucity of data written on insurgent principles of war, which are fundamental to any army. To assume that our principles of war are followed by insurgents is inaccurate and dangerous. Insurgents maintain and follow unique principles of war: they must. Classical principles of war are of little use to them.

Insurgent principles of war were developed through an in-depth survey of literature on insurgent warfare that included numerous case studies. Throughout my research, general patterns of insurgent warfare appeared regardless of strategy. From these patterns I deduced eight insurgent principles of war. These principles are most applicable to POIs.

Objective is the primary principle for insurgents. Wars cannot be won without an objective. Clausewitz stressed in his writings: "Objective is the striving force of war. War was not waged for its own sake, but waged to obtain a particular aim." This aim was classified by Clausewitz as the political objective of war.[1]

Insurgent warfare often appears to have no clearly defined military objectives. This occurs when one overlooks the primarily political nature of revolutionary warfare or POIs. Insurgent objectives have been incorrectly identified with partisan activities (primarily of the French underground) during World War II. Some guerrilla operations during World War II were conducted in support of conventional forces objectives, which is contrary to the objectives of POI. Also, because of the protracted nature of POIs, insurgents can easily become too involved in their day-to-day military activities and forget what their overall objective is.

The primary objective of insurgent warfare is the complete overthrow of a government and its replacement with a new governing body, most likely socialist in nature. Mao Tse-tung stated, "If guerrilla warfare is without a political objective, it must fail." The political objective must be compatible with the aspirations of the population. Therefore, success in guerrilla warfare depends on the support of the masses.

The constant objective is the political and military destruction of the enemy. Political factors take precedence. No military advantage can ever compensate for a loss of political direction.

Popular support is the primary consideration affecting success in insurgent warfare. Unlike conventional forces, insurgents are almost totally dependent on the population for food, medical supplies and intelligence.

Insurgents obtain mass support through a combination of persuasion and force. Mao taught that to win support of the masses, one needs to go into the countryside and persuade the people that the insurgent cause is looking out for their interests.

Col. T.E. Lawrence, who trained and organized Arab irregulars, attempted to define the essential components of irregular warfare. Above all, he stressed the need for popular support if insurgents were to maintain themselves for any length of time.[2]

In many emerging nations there are two groups of people; the very rich (the few) and the very poor (the majority). Thus, it is relatively simple for insurgents to obtain the support, or at least the acquiescence, of the masses if they perceive the government is insensitive to their needs.

Communist inspired or supported insurgents are especially adept at gaining popular support. Communism associates itself with the oppressed, the so-called victims of capitalist or colonialist exploitation.

Propaganda is an insurgent's key tool to obtain and maintain the support of the masses. Propaganda serves to involve and organize the masses. This is especially true during the initial stages of an insurgency. Through propaganda, the population is subjected to information and disinformation geared to demonstrate that the government is not serving the people's interests.

Propaganda is directed at the insurgent's own troops, the population and the insurgent's enemies. Most of the doctrine on propaganda is based on Mao's writings. Others such as Giap, Ho Chi Minh and Castro have adapted their writings to specific situations.[3]

Propaganda directed against the insurgent's own troops is designed to achieve discipline and a high degree of morale among the officers and men of an insurgent organization. The first rule is that hardships will be shared by both the cadre and guerrilla fighter. This generates confidence and pride in guerrilla leadership. Second, utilization of a promotion system based on merit provides the guerrilla fighter with numerous opportunities for advancement. Third, the fact that the guerrilla will be the main beneficiary of an insurgency makes the insurgent personally interested in its successful outcome.[4]

The last motivator is providing participants in an insurgency the elusive opportunity to develop self-esteem and possess a sense of power, which, with a weapon in their hands is more than they may ever achieve during the normal course of their lives. Insurgent leaders, aware of these emotional dynamics, purposely direct a portion of their propaganda toward this group.

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Propaganda directed against the population is designed to achieve the willing support of the people. Through this support, the insurgent obtains access to intelligence and critical supplies.

Mao listed eight points to follow when dealing with the population. If the insurgents do not treat the populace with respect, the people will become their enemy.[5]

Propaganda activities directed at the enemy are designed primarily to destroy the morale of government troops and, if possible, to win them over. Two basic rules apply here: Treat captured soldiers with respect and take care of the wounded. Insurgents applying this type of propaganda may release captured troops. This occurred in El Salvador during 1982-83, when Salvadoran armed forces units surrendered to

> **"Insurgents will fight only when the chances of victory are heavily in their favor. If the tide of battle turns against them, they withdraw."**

insurgents and were subsequently released a few days later.

The last major group for insurgent directed propaganda is the international community, and is targeted primarily to generate support for an insurgent cause. Nicaragua has been very skillful in obtaining various degrees of international support for their cause. They have even employed the services of U.S. firms to help sway U.S. public opinion in their favor.

Offensive is the principal method of destroying the enemy. Regardless of the type of conflict, it is the primary means to enable a military force to maintain initiative and achieve decisive results. Lack of appreciation for this principle of war will lead to defeat regardless of how skillful a commander may be.

Conventional and insurgent forces utilize the offensive; however, their applications differ. Conventional forces generally try to obtain a three-to-one ratio in numerical superiority before attacking another conventional force. Insurgents, in general, cannot hope to achieve this ratio until they reach Phase III, war of movement. Even then, most insurgent "units" will rarely mass greater than battalion strength. Thus, while achieving numerical superiority would benefit insurgents, it is rarely a primary consideration.

Military commanders must understand that in Phase III, if the insurgent is confronted with a superior force he will simply revert to guerrilla warfare (Phase II) or latent stage (Phase I) tactics and organizations.

Insurgents will fight only when the chances of victory are heavily in their favor. If the tide of battle turns against them, they withdraw. Unlike conventional operations, insurgent offensive operations are sudden, violent and of short duration.[6] Conventional weaknesses such as small group operations, dispersion of troops, and lack of heavy weapons are transformed into strengths.

Insurgent offensive operations consist of ambushes, sabotage, terrorism and other actions considered "harassing" in nature. While a conventional force seeks destruction of an enemy force, POI insurgents seek to "capture or destroy" the minds of the enemy. Retreat assures the insurgent freedom of action and the flexibility to apply initiative. Thus, for the insurgent, retreat is an integral part of the principle of offensive.

Knowledge of the **terrain** is vital to successful guerrilla operations. Many insurgents have the advantage of being natives to the terrain they are operating on. Proficiency is gained through reconnaissance and night training.[7]

For the insurgent, terrain is not simply understanding geographical factors. Terrain includes road networks, villages, climate, attitudes and language barriers (a factor Che Guevara failed to take into account). The skillful insurgent leader will analyze all terrain factors prior to initiating any operation.

While it is critical for insurgents to have access to the population, their base camps are generally located in difficult terrain, such as mountainous and marshy areas. Base camps permit insurgents to train and provide medical support and political indoctrination without immediate fear of enemy attacks. European experience revealed that revolutionary war had to be fought in the countryside to be successful.[8] Various El Salvadoran insurgent strongholds are found atop dormant volcanos. Within Peru, the Sendero Luminoso guerrillas maintain their bases in isolated mountain regions of the southeast.

Safehavens play a significant role in many insurgencies. Insurgent safehavens generally are located along national borders. Since border regions suffer from inadequate surveillance, insurgents can easily escape or establish camps across the border without fear of government pursuit.

In El Salvador it is particularly beneficial for insurgents to establish safehavens within disputed border areas between El Salvador and Honduras. Nicaraguan freedom fighters reportedly use the Honduran side of their border as safehavens.

Intelligence is the *decisive principle* of insurgent warfare. It is through superior intelligence that insurgents are capable of attacking at the time and place of their choosing. The primary requirements for insurgent intelligence are to select targets, achieve surprise, avoid being surprised and to evade pursuers.

Guerrillas seek information from *everyone*, regardless of occupation, sex or age. It is their intention to produce as much intelligence on their enemies as possible. For most insurgencies, farmers or similar citizens have proven to be the most valuable sources of information. Government forces are most likely the second most valuable source, due to their characteristically poor OPSEC.

Insurgents are very skilled in denying information to their enemy. Insurgent OPSEC is maintained through tightly organized intelligence nets. Only select insurgents have access to intelligence necessary for specific operational purposes. Also, insurgent communications benefit from sophisticated codes (generally provided by a third country) and strict adherence to COMSEC procedures.

Communist supported insurgencies receive advice, training and intelligence to support their operations. This support may consist of training on infiltration of government agencies, use of hand-held photography, wire tapping and SIGINT. Insurgents know the value of intelligence and take this principle very seriously. Given the characteristic simplicity of government intelligence agencies in many third world countries, intelligence provides insurgents a tremendous advantage over host nation forces.

The element of **surprise** is vital to insurgent success. Insurgent forces achieve surprise by operating in secrecy and attacking at their own time and place.

Surprise is the insurgent's key weapon against conventional forces. With surprise the guerrilla can achieve immediate tactical success and obtain tremendous psychological advantage. While surprise is also important to conventional operations, lack of it will not necessarily prevent success. Lack of surprise on the insurgent's part will severely restrict his operations, since insurgents lack the size, training and sophisticated weaponry to confront a conventional force. Chinese leader Peng Teh-Huai adequately summarized the importance of this principle: "All forms of deception and surprise must be used. The tactics of distraction, decoy, diversion, ambush, feint and irritation (i.e., harassment) must be employed against the enemy."

Control in insurgent organizations is more authoritative than in most conventional armies. Insurgent leaders demand total obedience from the guerrilla fighter. In many cases, death is the penalty for disobedience. Generally, however, good discipline is maintained because of the insurgent's belief in his cause, a belief which is constantly reinforced in POIs.

Control, centralized at the national level, ensures coordinated action across the entire spectrum of an insurgency. Of particular importance is the fact that it helps prevent destruction of facilities, assassinations or operations which may harm their overall effort.

Responsibility for the conduct of operations is decentralized at the lower levels. Decentralization allows the insurgent ground commander maximum flexibility to conduct his operations. Additionally it facilitates development of an aggressive spirit and initiative.

According to Secretary of Defense Weinberger, "One out of every four countries around the globe is at war."[9] Most of these wars are a variation of LIC, primarily insurgency.

Comparing our classical principles of war with insurgent principles will clearly demonstrate that the insurgent's approach to war is indeed quite different. Because of the unique nature of insurgency, the structure of insurgent organizations and multiple objectives, insurgents place greater emphasis on other principles. Insurgent principles of war must be considered during the planning and conduct of counterinsurgency operations. Failure to do so may result in needless loss of life.

The United States is currently involved, in varying degrees, in numerous low intensity conflicts, to include El Salvador, Angola, Nicaragua, Colombia and the Philippines. Most of our involvement consists of providing national security assistance to a host nation. However, U.S. involvement could escalate at any moment, as with Grenada.

U.S. LIC strategy dictates that we will provide assistance to a host nation who will fight its own war. Only in the most extreme cases will U.S. combat forces be committed. Consistent with this strategy, and as professional military intelligence soldiers, we must be capable of assisting a host nation defeat insurgency by providing intelligence support.

Intelligence support to a host nation will generally consist of advice, training and intelligence. Before we can provide support to a host nation, we must know the nature of the insurgent threat. Understanding insurgent principles of war is thus a fundamental step toward getting to know your enemy. ★

Footnotes

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The Red Army as an Institution of Power

by Maj. Mark W. Hays

The following article is the first in a series which will explore the militarization of the Soviet Union and the Stalin legacy.

The Red Army became a major institution of the Soviet state under Joseph Stalin. The Russian army was much different from those of other dictatorships, such as Nazi Germany, Fascist Italy or Imperial Japan, who based their power to varying degrees upon the army. Their armies remained in a sacred and separate position, jealously maintaining many prerogatives and privileges, and maintaining their own distinct political power. For the Red Army, this relationship was reversed. "The totalitarian movement is the source of the dictator's power, despite occasional expedient compromises. . . . As soon as power is seized, efforts are made to neutralize, and then to integrate the armed forces into the totalitarian militia supporting the external policies of the regime in much the same way the totalitarian secret police buttresses the regime's domestic policies."[1]

The German General Staff is the best example of the differences between the Red Army's position, and the position and power of other armies under different dictatorships. The German General Staff was able to erect a wall between the civil administration and the military. They maintained their own political power and, to a certain degree, autonomy, and were allowed to function with little outside control. "Those on the outside considered German military plans and operations something as beyond their comprehension and bowed to it with a respect almost religious."[2] The Red Army and Soviet society were militaristic, but the Communist Party remained vigilant against any independent power which could be used within the society. What developed in Russia was a military institution which is a paradox that is extremely difficult to comprehend, especially for Western society.

There are many questions to be answered about the Red Army's role as an institution. It was a powerful institution without any real power. Though it functioned within a worshipping, militarized society, it could not influence or change Stalin's goals or brutal methods. The Red Army became the link between the government and the people, but there was no means of political representation. Simply stated, the Red Army was used by Stalin as a mechanism to educate, train, indoctrinate, control and bind the Russian people. However, the army could be brutally purged by Stalin without offering any significant resistance. Soviet society was militarized between the world wars, and the Red Army became a powerful socialist institution on the surface. Beneath the surface, the Red Army was impotent.

Military service in the Soviet state was entirely different from the tsarist era, though the military was always a favored child of any Russian government. The Russian Imperial Army maintained a distinct caste system which placed the enlisted soldiers in the lower class. The officer corps came overwhelmingly from the Russian nobility. The tsarist officer carefully defended and maintained his rank inherited privileges. Contrast this to today's Soviet Army or U.S. Army, whose officers come from all levels of society, and whose rank is earned because of ability and performance. Which type of leader is a soldier more apt to follow? Military service in tsarist times was a burden; the soldier served time and then returned to the stagnant life of the Russian peasant. Under the Soviets, military service became an honor, duty, and more importantly, a method of advancement. Industrialization and mechanization certainly influenced the soldiers' ability to learn a technical trade or profession for use after service.[3]

Military service not only allowed advancement, but also provided a means of escape from the brutal rigors of Stalin's domestic policies: liquidation of the Kulaks and forced collectivization. Until 1935, 81 percent of the government's revenues still came from the forced procurement of the peasants' grain. Stalin's power rested with the strength of the army, and especially with the omnipresent, secret police. The favored sectors of society, they were rewarded with ample food and adequate shelter.[4] A report from the military attache in Paris graphically depicts the situation: "The Red soldier is better dressed than the soldiers of many other countries and better than the civilian population, which is usually clad in rags. In a country where each citizen has only 500 grams of dry vegetables and 150 grams of fat or butter a month, and habitations are wretched, the soldier is looked up to by the civilian population and his prestige is increased by the care taken of him by the government."[5]

"The government was perceptibly progressing and had to adopt brutal measures for the survival of the state."

In a society which was undergoing collectivization, liquidation and the destruction of all previous societal institutions, the Red Army could serve to hold society together and become the government's tool to prevent revolution. Service in the Red Army, after all, signified hope of a better life ahead. The foreign threat and danger propaganda was intense: the government was perceptibly progressing and had to adopt brutal measures for the survival of the state.

The military itself was hesitant to criticize the government, and logically so. Military expenditures grew with each successive Five Year Plan. The increases in armament and mechanization and emphasis on heavy industry were staggering, while the rest of the society suffered. Marshal Tukhachevsky once confided to foreign military professionals that, professionally speaking, much might be said in favor of a totalitarian regime. There was never any trouble about military budgets.[6] Selfishness was a strong factor. The Red Army enjoyed a prestige in the 1930s unknown before in Russia. The Red Army also developed a degree of autonomy before the purges. And, of course, there was the ever-present foreign threat which made the military buildup necessary. Stalin would not be criticized by the military, but rather would be eulogized.

The growing power and prestige of the Red Army during the '30s was more apparent than real. Stalin's power was deeply rooted by the middle '30s. The propaganda mechanism that built up his myth-like aura enhanced his control. Hand-picked writers glorified Stalin's role in planning for the imminent war: "How far into the future peered the eagle gaze of the Great Leader, his ability to deal the enemy blows of mounting force, his elaboration of a new type of strategy which supplanted the old and obsolete linear strategy."[7] "Virtually no speech, no newspaper editorial or radio commentary is delivered without references to 'our mighty leader,' or the 'Great Stalin,' or some such fulsome phrase." The average Russian thought that he lived and moved by the grace of Stalin.[8] Soviet leaders, military and civilian, were careful to honor and praise Stalin at every public opportunity. This sycophancy was more pronounced in Russia than in Nazi Germany for Hitler. Stalin's past record of reprisals and his complete control of the secret police allowed no dissention. The leaders feared for their own and their families' lives.

Stalin was clever enough to take advice from the select few whom he trusted. Advice came primarily from the Politburo, which by the '30s contained only staunch Stalin supporters. Stalin would relax the brutal measures of terror at strategic times. He received credit which would be transmitted to the peasants, who continued to revere him: Stalin was the only person who could relieve their suffering.

Stalin was brutally pragmatic. He understood the threatening international situation of the '30s. He duly emphasized the military buildup, and showed preferential treatment to the Red Army. War preparedness took priority over consumer products or agriculture. Some credit the 1932-33 winter famine to Stalin. The Japanese threat at that time was increasing and Stalin decided to build up the army's reserves of food and fuel to meet the probable war; these reserves were depleted because of the emphasis on the industrialization drive. The reserves for the army were procured by force from the peasants and from industry, which resulted in the death of millions and the hunger of millions more. The bluff, however, worked and the Japanese attack never came. Military readiness exacted a heavy price.[9] Perhaps the emphasis on the Red Army was necessary to ensure the survival of the Soviet State.

The problem in the middle '30s became the Red Army's feelings of importance and its move toward autonomy. This new, modern army did not feel a need for political control. The old military ranks were reestablished and the military leaders were allowed increasing authority: the Party's military commissar system had atrophied. An autonomous system of military education prospered.[10] The increased advantages and necessities given to service members had already been chronicled. The relationship of the Red Army to the Soviet people was closer than in any other country in the world. Russia would have to face the severe international threat alone to survive. The sacred Five Year Plans were working, and the Red Army was mighty. There was a unified feeling of progress and destiny by the middle '30s and the Red Army was the focal point. The Red Army thus rationalized its power and independence as the people's favored institution. This feeling of importance and movement to autonomy led to serious problems which culminated in their purge.

Stalin became suspicious of the Red Army's power and independence. Though the army carefully avoided political squabbles, Stalin felt threatened. There is reason to believe that Marshal Tukhachevsky and others "had acquired while in Germany a tendency to regard an army as a professional organization standing above politics and untouched by all but the most profound political changes." Tukhachevsky, in the presence of others at the German Embassy in 1935, stated that it was too bad that "the politicians were disturbing German-Soviet relations."[11] During the '20s and early '30s, the Red Army and German Army enjoyed a close military relationship. A telegram to the U.S. Secretary of State in 1937 disclosed that French intelligence had discovered a conspiracy of Red Army officers and German government officials to overthrow Stalin. Reported by the French to the Soviet government, this would serve French foreign policy very well.[12] Stalin was ready to demonstrate to the Red Army its full dependence on himself, notwithstanding Japanese and German aggression, or the failure of collective security with the West.

"French intelligence had discovered a conspiracy of Red Army officers and German government officials to overthrow Stalin."

Party ideology and control was finally being challenged by a growing and semi-independent institution. Lenin himself recognized the need to maintain civilian control of the military, which he initiated through the Partycontrolled, political commissar system. The Red Army felt they had outgrown that system with modernization and did not need control or interference by inept political personnel. By 1937, the political commissar system was only an appendage of the General Staff. Marshal Gamarnik, head of the political apparatus in the army, was a career soldier. Lenin outlined civilian control of the military, but Stalin would have to restore, modify and continue it.[13] This would not require much effort, since the foundation for political control was there, even if the hydra was underwater.

An extensive organization existed for the political preparation of the army. A 1931 report from Maj. George Arneman, entitled "Political Organs in the Red Army," was accurate. "The Communists say that a politically unprepared Red Armist is only half a Red Armist." Arneman explained that the Party political machinery was totally intertwined and united with the Red Army command to such an extent that it was impossible to separate one from another. "The whole Army is directed in the name of the laboring classes by the Communist Party and the source of morale in this Army is reliance on Communism."[14]

Stalin effectively bound the army between the government and the people, which ultimately served Stalin's totalitarian design. Soviet soldiers had a Lenin Corner designed for "useful" leisure. The provided literature indoctrinated the soldier with socialist ideals. The corner was controlled by the political officer who organized activities and discussions to meet Party doctrine. In addition, there was obligatory political instruction on the Red Army. A 1934 U.S. Military Intelligence report, "Political Instruction in the Red Army," provided excerpts from political lectures. The subject of the Five Year Plan was taught for over a month. The study included the results of the Plan which was described as a victory for the general line of the Party. The international significance of the Plan was studied in detail: the USSR resultantly became a strong industrial country; it became the foundation for continued socialism; and it destroyed the Kulaks, the internal enemies of socialism.[15]

Military films were another key method of political indoctrination. Maj. Emer Yeager, U.S. attache in Warsaw, admitted that many films were for propaganda, but added that the Soviets had a more developed system for technical and training films than most countries. In 1928, the Red Army already had 740 military cinemas. The scenarios for the films were approved by a military and political commission. At the time, there were 19 categories of films with varied topics: agitation against imperialist states, preparation of defense of the USSR, problems with relations with the international proletariat, description of the life of U.S. Army soldiers imbued with socialism (the film, "Jimmy Higgins"), the role of youth and women in defense, civil war and the peasants' role, and so on.[16] Political training and propaganda never disappeared. Neither did the close relationship between the population and the Red Army.

Militarization was mentioned as early as 1925 in a speech by Commissar of War, Frunze. "Mobilization, then, is a matter not of the army alone, but of the whole country; it behooves us, therefore, to make preparation for this eventuality and to militarize it."[17] The Red Army, then, was designed to be a class-conscious, idealistic army of the people, as opposed to isolated and autonomous. It lent itself easily to control by Stalin during the purges, because Stalin controlled the people. Though the army commanders attempted to remain apart from the political struggles, the army had a definite political role before the purges.

A retired German general wrote the following in 1932: "The Red Army is not only a military force but a first class political school. Every year it supplies the country with active Party organizers with political training. In the villages, the former Red soldiers are the best agitators for the Communist Party and the Soviet government. Before the members of the Red Army are discharged, they are trained in special courses for their work in the villages and on the farms: as members of councils, of the Party and Komsomol, as farm workers, leaders of military clubs, instructors of the militia, cinema mechanics, tractor drivers, etc."[18] The Red Army was composed of all nationalities, in contrast to the old army. Once a soldier returned home indoctrinated, he became a means of unifying a country which had many nationalities and languages. Another clue to the Red Army's political role comes from Marshal Voroshilov, who wrote about the problem of army leadership. "The commanding personnel is the center of our military system; it is the cement which holds all parts together, it is the creative force which keeps the political-moral and combat position of the Red Army in concert with the social and political events inside and outside the Soviet Union. In addition, the Osoaviachem is the driving force that prepares the masses for war."[19]

The political role of the army had been set down in Soviet law as early as 1918. A decree of January 15, 1918 stated: "The old army served the bourgeoisie as an instrument of suppression of the workers. When the workers and exploited classes took charge of the country, the necessity arose to create a new army which would be able to shield the Soviet government and replace the existing army, eventually leading to the general militarization of the population." The first Service Law of April 22, 1918 said: "The protection of the USSR is the duty of all citizens of the Soviet Union. The protection of the Union with arms is only possible by the working people."[20] The actual character of the Red Army thus included mass militarization. The Commander in Chief would be the Communist Party, which became Stalin.

All the party mechanisms of control and propaganda were present before the purges. But they had become secondary to the excitement and accomplishments of the juggernaut of the Red Army. As early as 1926, the Central Committee (CC) expressed concern over the control of the military. Fearing that the leaders were developing a military caste system, the CC accused the army of not paying sufficiently close attention to political training. A U.S. military report from Riga claimed that Voroshilov was personally rebuked by the Politburo for this situation in December 1926.[21] A few days later, Voroshilov made amends in a speech on Unity of Command under the dual system: "The combat value of troops must be higher under this new system (political commissar), since it is simpler and since its political efficiency is not less."[22] As the Commissar of War, Voroshilov was the highest ranking military man in the Soviet Union from 1926 to 1941. His position and role are key to the understanding of the impotence of the Red Army as an institution.

In 1925, Voroshilov became a full member of the Politburo without passing through the preliminary stage of candidate.[23] He was the only military member of the Politburo through World War II, which is highly significant for a militarized country. He was one of Stalin's closest friends, and had worked with him before the 1917 Revolution. As politician and soldier, he helped organize the secret police under Lenin. As military leader, he always subordinated the Red Army to the Party and civilian control. This loyalty helps explain why he was one of only two marshals to survive the purges of 1937-38. After the early German successes in 1941, Voroshilov was replaced by Marshal Timoshenko, but was given an equally important post in State War Plans. Voroshilov was always loyal to

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"A triangle of power consisting of the Communist Party, Red Army and industry formed in the Soviet Union, with Stalin in the middle controlling them all."

Stalin, even when his Red Army was being purged. "The Red Army and the Red Fleet are strong because of their political consciousness," he said in 1938. Voroshilov was also the only high ranking soldier to accompany Stalin to the Teheran Conference with Churchill and Roosevelt.[24] When the highest ranking military figure adamantly supports the politician, it becomes somewhat easier to understand how the purge was effected with little or no resistance. It follows that under Stalin, the military would have little power as an institution.

The Commissar of Defense had absolute control over the army, navy and air forces through the Revolutionary War Council and the Political Army Directorate. The entire high command structure deeply embraced the politics of the Party and was controlled by a man fiercely loyal to Stalin. When the Red Army was threatened by the purge, the high command structure would remain loyal to the Party and Stalin.

The trials and revelations of traitors within the midst of the Red Army sent shock waves through the ranks. The high command structure led by Voroshilov perpetuated the accusations, giving them the aura of truth. The pride of the favored institution was wounded. There would be no effort to question or stop the purges; rather, the objective would be to repair the damage. The Soviet press would help restore the pride and patriotic feelings of the Red Army by recalling the army's heroic deeds on its 19th anniversary. Stalin's propaganda effort was effective throughout the Soviet Union, particularly in the outlying military posts, which were composed of enthusiastic and impressionable young men.[25] The Red Army command would redouble their efforts to prove the army was loyal to the government. The centralized control by the Party was continued. No autonomy or real power for the Red Army would be tolerated.

After the purges, a new elite assisted Stalin in governing the country, while supreme leadership remained unchanged. Voroshilov was part of the elite, along with the other members of the Politburo. The atmosphere within the army was tense with overwhelming fear. "The knowledge of what repercussions followed from a single misstep resulted in a situation where decisionmaking in Soviet State institutions, on the highest level as well as in trivial matters, tended to gravitate toward the ultimate center of power, Stalin."[26] Even the CC had become powerless by 1938. Stalin skillfully kept any form of dissention from emerging. He controlled the military through Voroshilov and the General Staff, but also conducted separate meetings with selected, senior military personnel.[27] This abnormal procedure served to keep everyone on guard and publicly professing loyalty to Stalin for fear of their lives.

The impact of the purges would greatly influence international relations and the Western opinion of the Red Army as a competent force for controlling Nazi expansion. Lt. Col. Faymonville was realistic in his assessment in 1937: "Since an efficient Red Army has actually during the last three years been a force for peace in Europe, it follows that the recent weakening of the Red Army through the execution of Marshal Tukhachevsky and his associates leaves the prospect of Japanese and Fascist aggression definitely more probable."[28] This was an accurate strategic assessment, but Stalin would cover the weakness through his pact with Nazi-Germany, which would buy the Soviets time. However, Faymonville was one of the only observers to maintain that the potential power of the Red Army remained intact. After Hitler's invasion of Russia, Faymonville predicted that the Red Army, in a defensive posture, would fight to the last man and defeat Germany.[29]

After the purges and Stalin's demonstration of absolute power, things returned to business as usual in the socialist state. Voroshilov reiterated the submissiveness of the Red Army to the Party and Stalin in a 1938 speech. The Red Army was said to again be powerful because the people were united and the army again represented the masses. The Red Army is the "concentration of revolutionary energy, the inspiration needed to free the working classes from the bondage of capitalism." Voroshilov carefully credited Stalin for his key role in creating the Red Army, and exaggerated his exploits during the Civil War. He cautioned that the Soviet Union was still surrounded by enemies, but that because of the purges of the army traitors, the Red Army was stronger, more united and closer to the Party. His closing remarks cautioned "the same kind of shameful death faced by Tukhachevsky will be awaiting everybody who dares to go against his country and the Red Army."[30] The Red Army was forever tied to the people and the country. As a political institution, it would have no real power, because the Party would always closely control it. The paradox continues.

The Red Army became a modern and efficient military force second only to the U.S. Army, and the Soviet Union subsequently emerged from World War II as one of the two superpowers. The consequences of the Soviet success, however, left an indelible mark on Soviet society and the entire world. "Economic backwardness, rapid industrialization, ruthless exercise of dictatorial power and the danger of war became inextricably intertwined,"[31] to produce in Russia a totalitarian government with a totally militarized society. A triangle of power consisting of the Communist Party, Red Army and industry formed in the Soviet Union, with Stalin in the middle controlling them all.

Both external and internal factors played an important role in the development of the Soviet militarized state. If Russia had not been isolated in the diplomatic and economic community of nations, she would not have developed such a radical government which invited a Stalin takeover. After the military solution (Allied intervention) was chosen, adequate forces should have been dispatched to properly execute the mission. Neither half-hearted diplomacy nor half-hearted military operations seem to work. There are, of course, no simple answers to the conduct of foreign affairs, especially between conflicting ideologies. Nationalism in the Third World is often confused with Marxist ideology by the West. Extreme poverty is the motivation of the masses for radical changes in government. If the United States is not friendly and does not maintain normal diplomatic relations with countries such as Nicaragua, for instance, the Soviets will exploit the situation. If a country is economically backward, the United States should help it to develop by whatever means, or revolution may follow similar to the Russian case. The price of being a superpower is great, but democracy demands sacrifice. ★

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This article represents the first in a series of presentations by Maj. Hays. Through this series, we will present a comprehensive, historical analysis of the militarization of the Soviet Union. In the next issue of **Military Intelligence**, *Hays will examine Russian industrialization and Stalinism in an article entitled* **Russian History and the Socialist Regime.**

Battalion Task Force Counter-reconnaissance

by Capt. Steven L. Rundle

The commander of a unit is responsible for everything his unit does or fails to do. The S2 must know everything the *enemy* does or fails to do. He needs to prevent the enemy from accomplishing his mission. To do this effectively, the S2 must use his organic and attached assets wisely. These include the scout platoon, ground surveillance radar (GSR) platoon, company team patrols and aerial reconnaissance. Obviously, the S2 must know the assets' operational capabilities and limitations in order to effectively employ them for intelligence collection.

At the battalion level, the scout platoon is the S2's best and most vital asset. The intelligence section must monitor the scout net at all times; the S2 needs to establish himself as the primary link between the scouts and the command group. The S2 must have first-hand access to all information the scouts obtain in order to maintain his credibility with the commander.

When establishing a screen line, the scout platoon must position itself to provide the commander time to react to any enemy initiative. Also, they must be able to operate effectively at night. Thus, some inherent problems must be overcome. Moving the scout screen out in daylight enables the platoon to become familiar with the terrain before nightfall. The scouts must keep the S2 informed of their location at all times. This becomes critical when another asset detects movement to the front; the S2 must determine immediately whether the movement is friendly or enemy. Also, an internal method of vehicle identification can be established which will eliminate confusion in the dark, such as painting a white stripe on each vehicle's turret. Finally, restricting night movement to that which is mission essential will reduce identification and navigational problems.

All leaders must strictly enforce a good sleep plan; this is critical to the effective performance of the scouts' assigned missions. This will improve operations and will allow junior leaders to exercise authority and responsibility.

The scouts have two very effective counter-reconnaissance capabilities. Each scout vehicle carries a basic load of mines. Each scout listening post/observation post (LP/OP) could emplace and overwatch a hasty minefield nightly. It is essential to keep the commander informed, record the minefield, use only metallic mines (recovered quickly using the AN/PSS-11 detectors), and not to booby trap mines.

If terrain restricts movement to a narrow gap, the scout platoon can use one of its LP/OPs to cover a roadblock. They must ensure it cannot be easily bypassed or seen by the enemy prematurely.

The GSR platoon is another valuable asset. The GSR must be placed where it will have line-of-sight of the area to be covered. This position must provide for rapid movement to the rear if necessary. Before setting up any equipment, the GSR operator must establish communications with the S2 or with the unit to which the GSR is attached. The radar should be placed on the forward slope and be well covered and concealed to avoid silhouetting. Terrain and vegetation should be used to absorb emissions from the side lobes. The S2 should coordinate operating schedules with the GSR platoon leader, if more than one team is used.

The S2 is responsible for providing local security for each GSR team. Additionally, the S2 must receive a radar plan from all GSR teams. This plan should include a six-digit location of the radar sight, left and right limits and dead space. The S2 needs this plan early so that he can task other assets to fill any coverage gaps.

During any period of limited visibil-

GROUND SURVEILLANCE RADARS AND NIGHT OBSERVATION DEVICES RANGES (METERS)

EQUIPMENT TYPE	PERSONNEL	VEHICLES
AN/PPS-5 (GSR)	6,000	10,000
AN/PPS-15 (GSR)	1,500	3,000
AN/TVS-5 (CREW SERVED NOD)	1,200	1,200
AN/PAS-7 (HAND VIEWER NOD)	1,000	1,000
AN/PVS-5 (GOGGLES NOD)	200	200
AN/PRS-4 (IND WPN NOD)	600	600
THERMAL SIGHT (TANK, TOW)	2,000	2,000

FIGURE 1

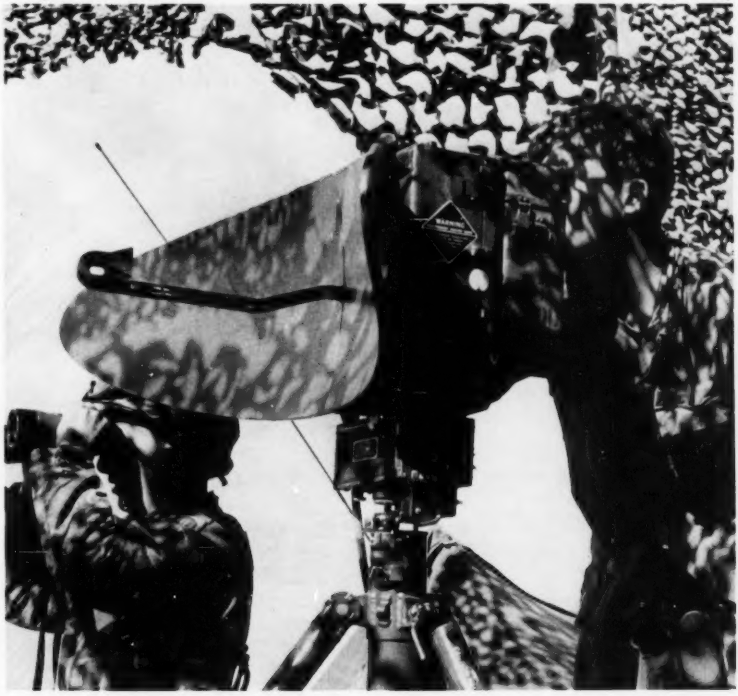
ity, the GSR can be used to call accurate, indirect fires. Care should be taken not to overextend the GSRs. They are most effective when given a specific mission, such as monitoring traffic along a single road or overwatching an obstacle.

The GSR should be used in conjunction with a night observation device (NOD) to facilitate positive identification of vehicles. The AN/TVS-5 NOD is effective to 1,200 meters. If the target is beyond this range, the scouts or a patrol will be needed to make positive identification.

Other uses for the GSR include vectoring friendly patrols at night and working in tandem with antitank weapons. When placed with the weapon system, the radar can identify the target and advise the gunner when the target is within range. Finally, it is extremely important for the GSR to continue to operate through jamming. At NTC, Blue Force GSRs were jammed with OPFOR radars. The Blue operators would inevitably get frustrated and shut down. At this, Red patrols would begin their penetration missions. Figure 1 shows the ranges of the various GSRs and NODs.

The S2 will find the assets of the company team essential to a successful counter-reconnaissance plan. Coordination with the commander must be accomplished early so that he can adjust to the manpower taskings. The companies will have LP/OPs forward of their defensive positions. It is important that the LP/OPs communicate with the company headquarters element so that the S2 can contact them through the company. Company teams must patrol their own battle positions to prevent the enemy from infiltrating with a platoon or company sized element (something the OPFOR does on a regular basis at NTC).

When used wisely, aerial reconnaissance is a potential asset, though it is extremely limited and must be planned for well in advance. The best times to employ aerial reconnaissance missions are during pre-dusk and post-dawn hours. The pre-dusk flight may reveal information that will necessitate changing of patrol plans, GSR positions, etc., while the post-dawn flight may portray



NOISE AND LIGHT DISCIPLINE

OBSERVATIONS WITH THE NAKED EYE

1. HEADLIGHTS	4-8 KM
2. CANNON MUZZLE FLASH	4-5 KM
3. SMALL ARMS MUZZLE FLASH	1.5-2 KM
4. FLASHLIGHT	UP TO 1.5-2 KM
5. BONFIRE	6-8 KM
6. MATCH	UP TO 1.5 KM
7. CIGARETTE	.5 TO .8 KM

SOUND

1. CANNON SHOT	UP TO 15 KM
2. AUTOMATIC WEAPON FIRE	2-3 KM
3. ARMORED VEHICLE MOVEMENT	
DIRT ROAD	UP TO .3 KM
PAVED ROAD	UP TO 1 KM
4. MOVEMENT OF TROOPS ON FOOT	
DIRT ROAD	UP TO .3 KM
PAVED ROAD	UP TO .6 KM
5. SMALL ARMS LOADING	UP TO .5 KM
6. CONVERSATION OF A FEW MEN	UP TO .3 KM
7. SHOVELS AND PICKAXES	UP TO 1 KM

FIGURE 2

new enemy positions.

Aerial reconnaissance is very useful for confirming or denying information and for keying other collection assets. Information gained from inflight reports, however, is not always accurate. Asking specific questions to obtain pertinent information will prove to be invaluable.

Helicopters can be very helpful when employed in the battalion area. When possible, the S2 should conduct aerial terrain analysis, searching for enemy avenues into the battalion defensive area. The S2 can also request that the aviation liaison officer forward the inflight intelligence reports to him. It may be wise to request an overflight of the battalion rear area at beginning morning nautical twilight (BMNT) to search for enemy reconnaissance vehicles.

Operations security (OPSEC) for the battalion must not be overlooked. Effective OPSEC can reduce the distance from which a unit can be seen or heard by the enemy. Field standing operating procedures must incorporate noise and light discipline guidance. For related ranges of selected activities see figure 2.

Finally, the S2 must incorporate his taskings into a cohesive plan. The reconnaissance and surveillance plan must be flexible, clearly written and complete. Disseminating a well conceived plan that addresses all available assets will assist the S2, and ultimately the battalion, in defeating the enemy. In conclusion, the key to successful counter-reconnaissance is to know your assets, have an aggressive plan, disseminate it early, and enforce it. ★

Capt. Steven L. Rundle, originally branched as an armor officer, has served as a tank platoon leader, tank company executive officer, and after branch transfer to MI, an S2. As battalion S2, he was responsible for all OPFOR regiment intelligence operations during seven force-on-force iterations at the National Training Center, Fort Irwin, Calif. He is currently assigned to the production branch, Intelligence Center, 513th MI Group at Fort Monmouth, N.J.

the BATTALION INTELLIGENCE OFFICER

as a combat leader

by Capt. Peter P. Godston

In the next war, the U.S. Army cannot afford to enter into combat unprepared. U.S. weapon procurement policy of quality versus quantity demands the careful management of combat power. High-precision equipment is an absolute requirement, whether intended for target destruction or location. Obviously, commanders at all levels must have the highest quality of intelligence possible. The training of the battalion intelligence officer is critical to position ground combat units where they can strike *known* enemy locations.

The consolidated training of S2s as intelligence officers throughout the Army is essential for the formulation and dissemination of quality combat intelligence. Yet, there are many different types of battalions, each requiring distinctly different S2 functions. An air defense artillery battalion S2, for example, needs to focus on friendly and enemy recognition frequencies, enemy aircraft identification and enemy air force standard procedures. An engineer battalion S2 directs his attention to an in-depth analysis of terrain characteristics in his supported unit's area of operations. Further, he conducts detailed analyses of specific enemy equipment. A careful examination of each battalion's mission is necessary to formulate the role of its S2.

A skill that all successful S2s must possess is the formulation of a cohesive, effective reconnaissance plan. A combat unit which lacks a well prepared and thoughtfully executed reconnaissance plan will be ineffective. A careful analysis of the enemy will yield the average time it will take to initiate his attack. Higher headquarters can provide limited early warning as the enemy approaches.

Operational responsibilities for reconnaissance, though sometimes overlooked by S2s, have been clearly identified at the National Training Center. Reconnaissance and counter-reconnaissance actions are the most effective when controlled at battalion level, normally by the S2 in close coordination with the S3 and FSO. Every intelligence staff officer understands that *he* directs intelligence efforts, collects and processes reports, and disseminates the finished product. Cognitive preparation for the battlefield breaks this down further into six tasks of intelligence analysis: identify information requirements, plan information collection activities, execute collection activities, update the threat model, prepare the product and communicate the product. Yet Field Manual 101-5, *Staff Organization and Operations*, allows the detailed planning and execution of collection activity to fall under the purview of the S3.

The S3 assists the commander in his effort to coordinate personnel and equipment by carefully considering the capabilities and weaknesses of the weapons systems and their crews. The S2 must assist the commander in his effort to coordinate intelligence assets and maximize their effect. He must carefully consider the capabilities and weaknesses of his unit's reconnaissance assets.

Building and executing a good reconnaissance plan requires a careful examination of organic reconnaissance assets, in conjunction with an assessment of the commander's requirements. The S2 must ensure that the requirements needed to execute his reconnaissance plan are satisfied. Finally, the S2 must orchestrate and direct its execution by planning patrol routes, ensuring that assets understand the reporting system, and briefing and debriefing patrols.

The S2 must possess a thorough understanding of organic intelligence assets and their capabilities. The commander's intelligence requirements must be addressed by carefully assessing threat capabilities, options and terrain constraints through the intelligence preparation of the battlefield process.

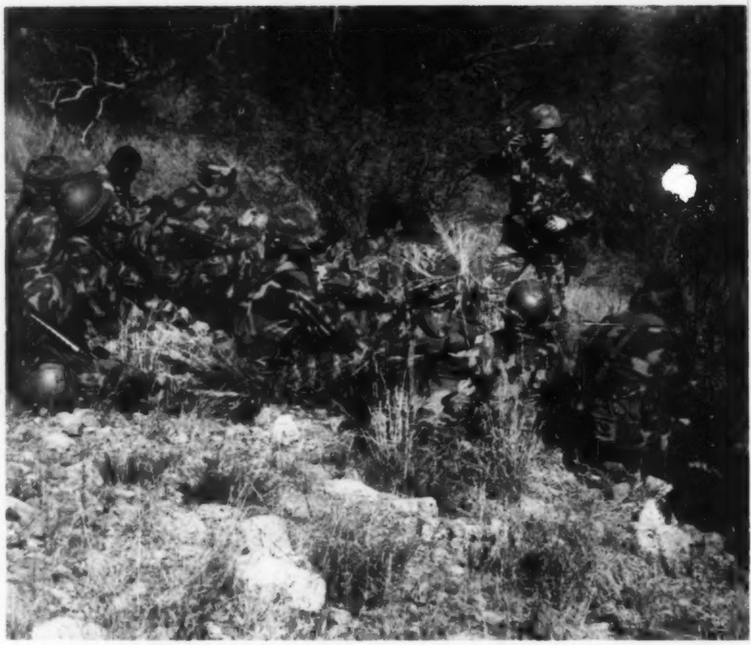
Terrain analysis usually reveals that the enemy has several courses of action in unit areas of operations and interest. Organic intelligence assets must be complementary. Ground surveillance radars must be used in addition to forward observers and scouts, to monitor key named and target areas of interest. Additionally, patrols and observation posts are appropriate assets to utilize.

The commander's requirements are extensive. The S2 must therefore prioritize and refine each asset's taskings to avoid confusion and subsequent failure. Unless taskings are realistic and prioritized, assets will not be able to provide the information for which they are most suited.

After the planning and tasking of the reconnaissance effort is complete, the S2 must assess what requirements are needed for the execution of each facet of the reconnaissance plan. He must additionally ensure his unit executes reconnaissance for subsequent battles while executing the battle at hand. Detailed, advanced planning is a prerequisite for effective reconnaissance.

The S2 must be intimately involved in asset route planning and coordination, reporting, briefing and debriefing as well as area of surveillance. The S2's perspective on the intelligence plan is an important ingredient in the motivation and subsequent performance of the soldiers who make the difference between solid intelligence and satisfy-

"During the patrol briefing . . .the S2 should readdress the patrol's priority intelligence requirements, provide any newly developed requirements and offer the latest information on their area of operation."



U.S. Army photo by David Sawyer

ing control measures or reporting requirements. The patrol provides a good example.

The S2 must play an integral role in patrol leadership. Although other leaders often plan routes, the S2 should supervise, providing guidance with map updates (gathered from earlier patrol debriefings) and adjacent unit coordination. Control measures (startpoints, checkpoints, release points, boundaries and time schedules) also should be provided or checked by the S2.

Report instructions must be carefully written and followed. He needs to control his assets, to ensure locational accuracy. The S2 and communications officer must provide for continuous communications with patrols, to include liberal use of radio relays. A reporting schedule and negative reports are essential.

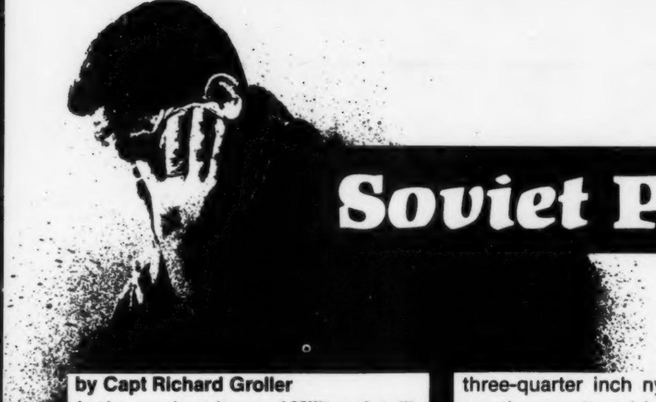
During the patrol briefing, the importance of the patrol's mission is reemphasized. The S2 should readdress the patrol's priority intelligence requirements, provide any newly developed requirements and offer the latest information on their area of operation. It is imperative to inspect the patrol for readiness, to include enemy identification, immediate action drills and report formats, and equipment packing lists and condition.

The patrol debriefing is the S2's opportunity to gain maximum input from his patrol. The debriefing should occur immediately after the patrol returns. After reviewing reports, the S2 should question them about commander's requirements not specifically called for initially in the patrol's mission, and any differences in terrain features. Throughout the process of patrol reporting and debriefings the S2 updates his threat data base, keeping the commander advised of pertinent changes.

Training an operationally active S2 is a challenge. Optimally, the infantry or armor S2 has had small unit leadership experience. Under the new officer accession system this will become more common. During the MI Officer Basic Course at Fort Huachuca, training involving patrol and reconnaissance could be expanded, regarding route, area and zone reconnaissance patrols. During field exercises, students would staff S2/S3 sections that direct patrols. Training would be emphasized, and rotating S2s would practice terrain analysis, writing patrol plans, overseeing patrol execution, briefing and debriefing patrols, collecting and analyzing reports, updating the intelligence estimate and briefing the battalion commander.

Fluid combat may reduce the longevity of hard earned intelligence to the degree that the benefit gained does not outweigh the expense of the effort. The desire to cover all avenues with reconnaissance patrols must be balanced with the need to bring a maximum amount of combat power to bear at the appropriate time. Also, high density attacks historically cause the rapid elimination of all extended intelligence assets. In the final analysis, the commander, measuring the capabilities and personalities of his staff, must determine where the division of labor in reconnaissance planning and execution will be. Yet most will probably agree: the labor should be shouldered by the intelligence officer, who should have a better understanding of the process. Further study of the roles of all S2 positions will greatly enhance the ability of intelligence professionals to fill S2 positions in all of the Army's battalions. ★

Capt. Peter P. Godston was commissioned in Military Intelligence in 1983. He holds a bachelor's degree in political science with a minor in Russian language from Johns Hopkins Univ. He has served as an assistant brigade S2 and scout platoon leader in Korea. Following an inter-theater transfer to Germany, he was service platoon leader and executive officer of the 502nd Military Intelligence Company (CEWI), 2nd Armored Cavalry Regiment. He is currently the adjutant of Command and Control Squadron, 2nd Armored Cavalry Regiment.



Soviet Psychotronics —

A CLOSER LOOK

by Capt Richard Groller

In the previous issue of ***Military Intelligence****, the author presented a general overview of the investigation of psychotronics or parapsychological (PSI) phenomena and their potential military application. This article concentrates on more specific, detailed information on PSI experimentation.*

Dr. Robert G. Jahn, Dean of Princeton's School of Engineering, and Lab. Director Brenda Dunne operate the Princeton Engineering Anomalies Research Laboratory at the Princeton Univ. School of Engineering and Applied Science. The work done at Princeton falls into two general categories: experimentation and modeling. Experimentation involves both low-level psychokinesis (PK) and pre-cognitive remote perception. Modeling deals primarily with the exploration of physical (quantum mechanical) models of the psychic process, as well as methods for analyzing the data collected.[1] The most successful experiments to date have been random event generator (REG) and random mechanical cascade (RMC) experiments.

"REG experiments have been the most widely used and most productive facilities for experimentation with low-level PK. Most (REGs) involve four conceptually and functionally separable components: an electronic noise source; a sampling system which examines the noise at prescribed intervals and prepares an output pulse train corresponding to the samples thus obtained; a system which tallies the pulse train in accordance with preset instructions and prepares suitable output for a feedback system; and the feedback display itself, which informs the operator of the results of the sampling process."[2]

In the RMC experiments, a 6'x10' apparatus "allows 9,000 three-quarter inch polystyrene spheres to trickle downward through an array of 330 three-quarter inch nylon pegs. They are then scattered into 19 collecting bins across the bottom. . . . The experimental protocol calls for the operator, seated on a couch approximately eight feet from the machine, to attempt on volition or instruction to distort the distribution."[3]

The experiments' objectives are similar, but differ in scale. REG events occur at the micro level, in which the operator attempts to shift the pulse distribution of electrons tunneling through a diode. RMC events occur at the macro level, in which the operator attempts to shift the mean distribution of the plastic spheres as they cascade toward separate bins. The results obtained from these experiments are noteworthy. The REG events incorporated more than 500,000 trials, and statistically significant results occurred at the .002 confidence level. The RMC experiments incorporated more than 7,000,000 trials, with statistically significant results at the .0003 confidence level.

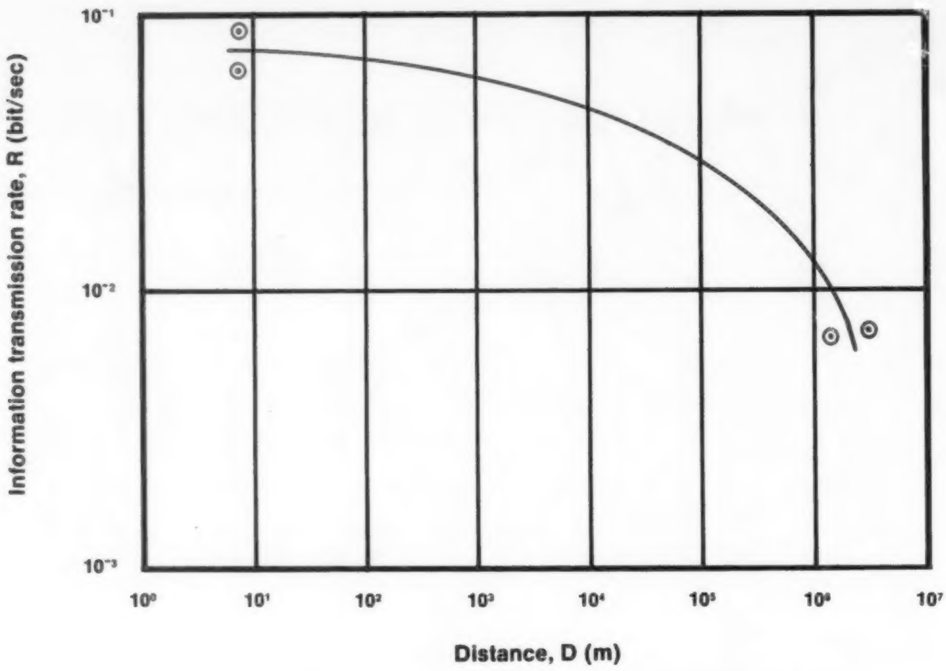
Dr. Jahn's work emphasizes the need for an increased level of awareness regarding parapsychological threat assessment, i.e., the possible vulnerability of engineering components and systems to the effects of human consciousness. In light of causality (in quantum theory, the influence of the observer upon the observed), and with the greater sensitivity and miniaturization of modern components, the possibility of deviations being brought about by the subtle powers of the mind can become a very real fear.

Much parapsychology investigates the myriad of phenomena relating to the interaction among living organisms and with the surrounding environment, without the mediation of the known senses, or of scientifically quantified energy mechanisms. Parapsychologists from Eastern bloc countries argue that after many years of research, conventional science still has no satisfactory explanation of memory or conscious experience. They look to contemporary physics, a science now approaching the realm of metaphysics and inhabited by advance potential waves (waves of electrons perceived before they are generated), tunneling effects (electrons penetrating barriers which, by the laws of probability, should be impenetrable), the Dirac Sea (a modern return to "Ether Theory") and tachyons (particles traveling faster than light, implying the possibility of a backward flow of time). They can only conclude that "hard" science no longer offers a secure rationale for the denial of the possibility of noncausal phenomena.

Many leading Czech parapsychologists espouse the theory that most people possess psychic capability, and that this may be best demonstrated as PK effects. Czech parapsychology is heavily oriented toward PK, partially stemming from Robert Pavlita's developmental work in psychotronic generators.[4] The use of these devices for the collection and concentration of biological energy could evidently make it possible for nearly anyone to cause observable PK effects.

Significant energy and resources are being allocated to research into "extraordinary functions of the human body" in the People's Republic of China. This research concentrates on the more benign aspects of PSI, to include work in telepathy, PK and "eyeless" sight.[5] Efforts continue, despite Western charges of pseudo-science, and lack of protocol and scientific rigor.[6]

I.M. Kogan's theory of electropotential forces lining up in the brain at certain times to create a low-power, long-wave transmitter-receiver system are of particular interest to C^3 applications. In experiments conducted with multiple subjects to test mental transmission of decimal digits, his most promising success occurred when 78 percent of randomly selected, transmitted digits were received.[7] Although the information transmission rate was low by



Variation of information transmission rate with distance

Figure 1

today's standards, the results are still significant (See figure 1).

"The congruence of the Soviet model of ESP occurs at several qualitative levels, from the simple aspect of hypothetical-theoretical overlap of transmission and reception, to the need for an unjammable and EMP-proof C³ medium in post-nuclear exchange environment modes, from 'broken-back war' fighting to conflict termination. One main hypothetical parallel is the problem of slow data rate and the early era of telegraphy and radio, a problem overcome with codebooks and imagination."[8]

Capt. Richard Groller's technical experience includes work in SIGINT system design and extensive research in the field of single station location high-frequency direction finding. Currently assigned as the SIGINT Requirements Officer, ODCSI, HQ Forces Command, Fort McPherson, Ga., Groller has been published in the ***Proceedings of the 22nd Annual DoD/AOC Electronic Warfare Symposium, Field Artillery Journal*** *and* ***Military Intelligence****.*

Comparison of U.S. and Soviet Parapsychology Terms

U.S.	SOVIET
Parapsychology	**Biocommunications**
-Telepathy -Precognition	-Bioinformation
-Dowsing -Psychokinesis	-Bioenergetics
PSI Phenomena	**Paraphysiology**
Extra Sensory Perception	**Psychotronics**
	Psychoenergetics
	Biophysical Effect

Footnotes

1. Robert G. Jahn, Brenda J. Dunne and R.D. Nelson authored numerous articles concerning experimentation and modeling. For an in-depth study, see Technical Notes ***PEAR*** 82002 (April 1982), 83002 (June 1983), 83003 (August 1983), 84001-B (January 1984), 84001 (March 1984), 84003 (September 1984) and 85001 (July 1985).
2. Robert G. Jahn, "The Persistent Paradox of Psychic Phenomena: An Engineering Perspective," ***Proceedings of the IEEE***, Vol. 70, No. 2, February 1982, p. 145.
3. Robert G. Jahn, et al., "Princeton Engineering Anomalies Research," Technical Note ***PEAR*** 85003, September 1985, p. 10.
4. Sheila Ostrander and Lynn Schroeder, **Psychic Discoveries Behind the Iron Curtain**, Copyright 1970, Prentice Hall, Englewood Cliffs, N.J., p. 381.
5. A score of articles written by Chinese scientists have been published in the ***Nature Journal***, Vols. 2-5, 1979-1982.
6. Marcello Truzzi, "China's Psychic Savants," ***Omni***, Vol. 7, No. 4, January 1985.
7. I.M. Kogan, **The Information Theory Aspect of Telepathy**, from text of speech delivered at UCLA in June 1969, based on materials published in ***Radiotekhnika***, Vols. 21-23.
8. Roger A. Beaumont, "Cnth? On the Strategic Potential of ESP," ***Signal***, Vol. 36, No. 5, January 1982, p. 44.

Ciphers and Codes:
The Birth of SIGINT

by Dr. Bruce D. Saunders

Many historians consider the American Civil War as the first "modern" war. New equipment that was used extensively for the first time included gatling guns, submarines, land mines, observation balloons, and railroads for resupply, troop movement and medical evacuation. This was also the first major conflict in which the telegraph was used on a large scale.

The demand for telegraph operators grew, as the conflict widened in the spring of 1861. The Union Army recruited telegraphers from the American Telegraph Company and many smaller railroad telegraph units operating east of the Mississippi, and formed them into the U.S. Military Telegraph Corps. Offices were opened under Andrew Carnegie's direction in Washington, Alexandria, Fairfax and numerous other locations.

One of the most interesting and influential individuals in this unique organization was David Homer Bates, who was recruited by Carnegie, his supervisor. Bates recounted his wartime experiences in a volume entitled **Lincoln in the Telegraph Office** (1907). He has provided us with an excellent summary of the use of ciphers, codes and early SIGINT operations.

Bates and three other telegraphers reached the nation's capital on April 27, 1861, and immediately set to work in an office next to Secretary of War Simon Cameron. These four individuals formed the nucleus of the Telegraph Corps that grew to over 1,500 members. Because of the unique service the Corps performed, its members were not considered as regular soldiers either during or after the war. They took their orders directly from the secretary of war.

Bates was assigned to Adm. John A. Dahlgren at the Washington Navy Yard until May 1861. He was then transferred to Annapolis Junction, where he served under Gen. Ben Franklin Butler. For the remainder of the war, he was stationed at the War Department's second floor library. One of the most frequent visitors to this office was Pres. Abraham Lincoln, who read the dispatches from the major battle sites as they were received and broken by Bates and the other telegraphers. The secure and remote location of the Telegraph Office afforded Lincoln a place to hold high-level conferences with his cabinet members, congressmen and Union leaders. As the war progressed, the size of the staff of telegraphers increased to 10-12 during daytime duty hours, and 2-3 during nighttime duty.

The first Union ciphers that were designed and sent out from this office were very simple and were contained on 3x5 cards. They consisted of a series of key words that indicated the route or order in which the message was written and the arbitraries that represented names and phrases. An operator could encipher the message in five, six or seven columns and fill in any remaining spaces with blind or extra words. A key word would indicate to the recipient the number of columns it contained and the order in which the message was enciphered. A key word might indicate that a message consisted of four columns and six lines of text: the direction required for deciphering, for example, could be up the 2nd column, down the 3rd, up the 1st and down the 4th. Anson Stager devised this method for Gen. George McClellan in the summer of 1861 and it served the Union forces well throughout the conflict. Later, the War Department issued a series of a dozen different cipher books in a small format that fit neatly into an inside coat pocket. The first edition of this volume contained 16 pages, while the last edition had expanded to a total of 48 pages.

As most Union messages were passed along telegraph lines, there was always the possibility that the Confederates would intercept them, break the cipher and read the Union's intentions. Indications of Confederate intercepts are rare. Bates does recount an incident during Gen. Ambrose Burnside's Fredericksburg Campaign in late 1862, when the Union operators picked up some unusual signals and noted an unusual opening and closing of the circuits. The operators passed deceptive and misleading messages through the net to confuse the Confederates and continued to do so in the hopes of further misleading them. How successful the Confederate intercepts were and what changes, if any, they caused in Confederate plans is impossible to determine. In the same way, the success of the Union deception in this case also remains a mystery.

If the Union ciphers were rudimentary by today's standards, the Confederate effort was even more elementary. In most cases, they employed ordinary letter ciphers based on a transposed alphabet. According to Bates, Confederate messages were occasionally intercepted through taps in the wires and often from messengers who carried the traffic in written form concealed on their person. Confederates also used the "Slater" code method of either moving forward or backward in the alphabet a specified number of letters. In several cases, a cipher based on a combination of letters, numbers and symbols were employed, but broken by Bates and his colleagues in a matter of several hours. Agents recovered an alphabet square, similar to those that Confederate generals used, from the pocket of John Wilkes Booth. While high-level Confederate officials probably provided Booth with the square, it is impossible to prove that they had any connection with Booth's actions against Lincoln in April 1865.

Military intelligence professionals can learn several significant lessons from the actions of the U.S. Military Telegraph Corps and Confederate cipher activities. In several cases, ciphers were broken because of operator error. Basic COMSEC rules were violated, and the enemy obtained copies of sensitive documents, code books and easily exploitable devices. In the case of the few known intercepts that were completed, the requirement for security was understood and observed. While SIGINT was a very new and rapidly growing aspect of military intelligence during the Civil War, we may trace its origins to this conflict.

Endnotes

Information for this brief overview was obtained from the following sources: David Homer Bates, **Lincoln in the Telegraph Office** (New York, 1907), pp. 1-85; Joseph Willard Brown, **The Signal Corps, Army, in the War of the Rebellion** (Boston, 1896), pp. 98-101, 112-113, 118-119, 210-215 and 274-277; and David Kahn, **The Codebreakers: The Story of Secret Writing** (New York, 1967), pp. 214-220. For the most complete summary of cryptologic activities of both the Union and Confederate Armies during the Civil War, see **Historical Background of the Signal Security Agency**, Volume I, "Codes and Ciphers Prior to World War I" (Washington, 1946) pp. 21-95.

Laws of War

by CWO2 Robert Barfield

First Law: The course and outcome of war waged with unlimited employment of all means of conflict depend primarily on the correlation of available, strictly military combatants at the beginning of war.
Second Law: The course and outcome of war depend on the correlation of the military potentials of the combatants.
Third Law: The course and outcome depend on its political content.
Fourth Law: The course and outcome depend on the correlation of moral-political and psychological capabilities of the peoples and armies of the combatants.
Marshal Sokolovsky, **Military Strategy**.

The Soviet laws of war state the obvious: The nation better prepared to wage war militarily, politically, economically and psychologically will win. Correlation of forces, a conceptual comparison of the relative strengths of potential enemies, is an integral dynamic contained within Soviet doctrinal philosophy. It is used to set national goals, and determines the appropriate form of struggle to meet those goals. Since the correlation of forces is such a key Soviet doctrinal concept, the U.S. intelligence community must understand its influence on Soviet decision-making policies.

War is not the primary objective of Soviet political strategy. The goal of Soviet politics is to create and maintain favorable economic and political conditions. The Soviets prefer to achieve this objective peacefully—by forcing appeasement upon the enemy; they bargain from a position of strength whenever possible. Thus, the correlation of forces is used to determine when that position of strength exists, and when it is strong enough to achieve their goal without resorting to armed conflict.

In using the correlation of forces, Soviet decisionmakers compare the relative political, moral, economic and military strengths of the nations directly and indirectly involved. The Soviets consider five major points:

1. Relative military strength and the ability to apply that strength in the likely theater of conflict.
2. Predictions on the reaction of other nations if armed conflict should occur.
3. Perceptions of the degrees of internal discord, ideology and nationalism in all concerned nations.
4. The state of the economy and its ability to sustain the type of conflict envisaged.
5. The personalities and levels of experience of the national decisionmakers on both sides.

This general estimate of the situation is usual in all political and military decision-making processes, but its inherent "scientific" application in policy making is distinctively Soviet. Based on the gathered data, the Soviets determine if the correlation of forces is favorable, unfavorable or nearly equal. They consequently decide which form of struggle to use, ranging from diplomacy to general war.

The ideal Soviet strategy is a favorable correlation of forces. Under these conditions, the Soviets expect to attain their goals without resorting to war. They hope to influence the enemy to concede that they would have more to gain by negotiating than by fighting. The Soviets will then bargain from a position of strength. This tactic is clearly evident in the post-World War II partitioning of Europe.

When methods of lesser risk are not likely to achieve their goals, the Soviets will use the correlation theory to determine the risks involved in using armed forces. If the potential gain outweighs the risk, the Soviets will use their armed forces as the quickest and most reliable means possible—but only when the correlation of forces indicates that major enemies will be unlikely or unable to intervene militarily. Their theory was accurate in Hungary, Czechoslovakia and Afghanistan.

If they believe the correlation of forces is unfavorable, the Soviets will either reset the goal at a more attainable level, or choose a form of struggle below that of a state of war, such as subversion, sabotage, colonial rebellion or proxy war. To the Soviets, these armed conflicts pose little political risk and are useful when diplomacy fails.

There is a risk of war when the correlation of forces is nearly equal. Under this condition, Soviet decisionmakers have three options:

—Reset the goal to a level attainable by diplomacy, which changes the correlation of forces;

—Subjectively lower the correlation of forces to *unfavorable* and choose a supplementary form of struggle;

—Subjectively raise the correlation of forces to *favorable* and attempt to bargain from a position of strength.

The Soviets believe that scientific application of the correlation of forces will prevent the nation from being drawn into a war they will lose. They are therefore unlikely to take the risks involved in subjectively raising the correlation of forces. Case in point: The Cuban missile crisis.

The greatest risk of war occurs when the correlation of forces is inaccurately determined. When two adversaries believe they each have a more favorable correlation of forces, war is virtually inevitable. Each side will attempt to force appeasement on the enemy. Almost ironically, just as disagreement on their relative strength will most likely lead to war, the war will end when the two sides agree on their relative strength as the outcome of the war becomes obvious.

The Soviets take pride in their ability to correctly assess their relative strength using the correlation of forces, and in their ability to manipulate the forces used in the correlation. Their long term goals include efforts to constantly shift the correlation in their favor. They are confident in their ability to use the laws of war to achieve their goals without becoming involved in a general war. They have far less faith in the policy makers of the west.

The Soviets view western military doctrine and political strategy as unscientific and adventurist. They blame the start of wars on failure to correctly measure the correlation of forces. There is, of course, some ideological prejudice in this belief, but also quite a bit of truth. Wars result from a disagreement on the relative strength of nations, or in Soviet terms, an "inaccurate determination of the correlation of forces." This concept bears further study.

The laws of war and the related concept of the correlation of forces are important aspects of Soviet political and military doctrine. Even if we do not agree with the scientific tenets of Soviet doctrine, we must understand how these concepts are applied in the Soviet decision-making cycle. They could help determine whether there is peace or war.

Rethinking Tactical SIGINT/EW

Essay

by Capt. James J. Zanoli

We need to reevaluate our tactical SIGINT and EW doctrine. Specifically, we need to ask ourselves if we can expect our austere collection and jamming teams to survive and conduct assigned tasks. We must examine a number of factors that our doctrine has presumably overlooked.

Foremost, do we have the required manpower to field our equipment? Doctrine assumes our units are at full strength. Typically, our units do not operate at full strength; to expect more during war is self-deceiving.

The second consideration is equipment availability. Will our highly technical equipment be ready when needed, since a unit rarely attains a 100 percent equipment readiness status? We need to consider, for example, deploying our direction finding (DF) systems along a baseline when less than the optimum are operational.

Additionally, we need to consider maintenance. The maintenance and repair of sophisticated electronic equipment spread across the entire battlefield poses unique challenges. Doctrinally, mobile contact teams will be dispatched to make the necessary repairs. However, in a combat environment, control of contact teams operating across expansive areas will require extensive planning.

The resupply of collection and jamming teams is another major hurdle to overcome. Large amounts of basic supplies such as food and ammunition may be carried by the teams, but fuel presents a major problem. We address our resupply either through other units in the area, or through our own platoon headquarters. Dependence on either, due to priorities and organic austerity, does not provide guaranteed results.

The ability of a team to provide for its own security is also a major problem. A sound methodology for an effective security posture is required. Performing internal security must become a doctrinally assigned task.

The teams' electronic signatures also increase vulnerability. As a result of a heavy reliance on secure FM communications, teams are extremely vulnerable to enemy direction finding and targeting.

Finally, tasking and analysis become even more difficult with the dispersement of teams. Messages become distorted each time they are passed over the radio. Perhaps even more importantly, team members who would be available to assist when colocated will not be of any assistance because of dispersal.

In essence, we cannot spread our limited, expensive and sophisticated collection and jamming equipment across the battlefield. We presently lack the manpower or dedicated logistic support to run such an operation. We need to implement a more realistic plan. Until such a plan is devised, we are all forced to do more with less.

1987 Military Intelligence Prospectus Correction

The chart following the ***Assignment Opportunities*** section in the 1987 Military Intelligence Prospectus (Oct-Dec) was printed with a transposition of the percentages. An accurate breakdown of the assignment opportunities available to military intelligence officers appears below.

	35B	35C	35D	35E	35F	35G
U.S. Army Intelligence and Security Command	30%	11%	10%	42%	84%	27%
U.S. Army Forces Command (FORSCOM)	02%	33%	44%	20%	00%	31%
DOD Joint and Special Activities	41%	21%	03%	06%	11%	06%
U.S. Army Europe (USAREUR)	05%	16%	26%	12%	00%	17%
U.S. Army Training and Doctrine Cmd (TRADOC)	03%	08%	11%	05%	00%	15%
Other	18%	11%	06%	15%	05%	04%

INTELLIGENCE REQUIREMENTS

(Continued from page 6)

and appropriate to the level of command which receives it. Incisive estimates permit decisionmaking which results in action. We must achieve a sophistication in our intelligence support that informs commanders on present and future events. Past events refine our understanding of the current situation. In support of this objective, we must avoid the inclination to pass all we know to everybody.

The weld between the mobile armored force and its operational objective is the commander's intent. This brief, clear statement, coupled with highly focused PIR/IR, needs to be foremost in the mind of every intelligence analyst and IEW systems operator. Intelligence operators are the first to know or sense what the enemy is doing or how he is reacting. These operators must understand and act in accordance with the commander's intent to effectively target enemy vulnerabilities, refocus combat power, and immediately identify and communicate critical, battleshaping information to the commander. Intelligence soldiers must develop the instincts and the battlefield savvy of good, light cavalrymen.

Our IEW efforts are impressive, but the demands of mobile armored warfare on the air-land battlefield will stress our intelligence assets to a greater extent than they have ever experienced. Our success at the operational level will largely depend on the intelligence community to rise to the challenge. The alternative is not acceptable. ★

> **"Intelligence soldiers must develop the instincts and savvy of good, light cavalrymen."**

Lt. Gen. Crosbie E. Saint was commissioned in armor from the United States Military Academy in 1958. He has served four tours in U.S. Army Europe, commanding a troop in the 3-14th Cavalry and 3-7th Cavalry. He has commanded the 11th Armored Cavalry Regiment, 7th Army Training Center and the 1st Armored Division. During his two tours in Vietnam, he commanded the 1st Squadron, 1st Cavalry and served as G3 of the Americal Division. He has held numerous staff positions at all levels of the Army, to include executive officer to the chief of staff, Army. Lt. Gen. Saint is currently commander of III Corps and Fort Hood. He is an advocate of mobile armored warfare.

CELTIC CROSS

(Continued from page 21)

Spot reports reflected extensive collection by all units. Combat units provided an equally important source of information. Cued by effective collection and early reporting by SIGINT and HUMINT, scouts and aerial reconnaissance elements confirmed OPFOR locations. Infantry units followed up, or in many cases were used to find and fix guerrillas when other means were unsuccessful. The division intelligence net was used extensively to pass these reports and disseminate the information to all concerned consumers. This was truly a combined arms operation.

Finally, the Long Range Surveillance Detachment (LRSD) figured prominently in the intelligence concept of operations and conduct of the battle. Although we were not always able to deploy the LRSD in accordance with established doctrine due to terrain and exercise constraints, LRSD utilization contributed significantly to the deep strike operation which terminated the exercise. LRSD employment was based on G2/G3 assessments of enemy activity and provided ample opportunity for the division to evaluate operational procedures and coordination requirements, especially with the Combat Aviation Brigade.

One of the more significant highlights of the exercise was intelligence support for the successful G3 targeting effort. The entire focus of the intelligence collection concept was to enable the G3 to react to actual or predicted enemy activity quickly, with appropriate means. As an example, when a reliable source reported that the armor battalion commander was observed at a location within artillery range, the information was immediately passed to the operations officer, who, in conjunction with all members of the targeting cell, determined that elimination of the target by artillery was appropriate. Within 10 minutes of the initial observation, the target was destroyed. This success represented pre-deployment preparation, coordination and efficient execution of a viable system in the field.

> **"The Long Range Surveillance Detachment (LRSD) figured prominently in the intelligence concept of operations and conduct of the battle."**

In conclusion, one fact stands out: the division's austere organic collection capability requires a total, coordinated effort by the entire division to locate and destroy the enemy. The MI Battalion provides essential early cueing, which is used by reconnaissance elements to confirm enemy locations. Division combat forces can then be applied to neutralize the threat. If one key element is removed, the system will not work. CCIV has underlined the significance of intelligence as a premier combat multiplier for the light division. ★

Lt. Col. Spence Campbell is currently G2, 7th Infantry Division (Light). He is a graduate of CGSC and is currently enrolled in the U.S. Army War College Correspondence Program. He holds a bachelor of science degree from the Univ. of Tennessee, and a master's degree in Russian area studies from Georgetown Univ. Assignments include CI Officer and Province S2's Advisor, RVN; MI Detachment Commander, 3rd Armored Division; Plans Officer, U.S. Army Special Security Group HQDA; Action Officer, OACSI, DA; Intelligence Operations Officer, ODCSI, U.S. Command, Berlin; Chief, Intelligence Plans and Programs and Executive Officer, Directorate of Intelligence, Rapid Deployment Joint Task Force and U.S. Central Command, MacDill AFB, Fla.

USAICS Notes

Phototracking

The essential ingredient for insurgent day-to-day survival and long term success is security. Without security, insurgents are vulnerable to attack and rapid destruction by normally superior government forces. Because of this situation, security dominates insurgent operations and government forces consider it a key insurgent vulnerability (or center of gravity) which, if penetrated on a continuous basis, will lead to rapid destruction of the entire insurgent effort.

History has demonstrated that sporadic, successful operations against insurgents have little impact. Success is achieved by operations that threaten and penetrate insurgent security and increasingly identify more vulnerabilities for exploitation. History also shows that successful counterinsurgencies have relied primarily on human intelligence sources to obtain specific information concerning location, time and activity to permit the planning and conducting of operations with *specific* objectives. Sources such as prisoners, defectors, agents and sympathizers were able to pinpoint safe houses, caches, base areas, tunnels, mined areas, insurgent support installations, routes, organizations and planned movements.

Maptracking has proven to be one of the most effective methods of obtaining specific information. An interrogator relates time, distance and known physical objects to a map while questioning a subject, and is therefore able to obtain exact locations of insurgent targets for exploitation.

A more effective extension of the normal maptracking procedure is phototracking, which often can be accomplished more easily and with considerably greater accuracy. Phototracking, an interrogation technique based upon the use of oblique aerial photographs in conjunction with maps, allows the interrogator to relate physical terrain features to information provided by the subject. Also, with phototracking, the subject may participate by viewing the photograph at appropriate times during the interrogation. This seldom is successful with maps, since few insurgents or civilians possess an adequate map-reading capability.

Photographs to support phototracking should be taken from an altitude of several thousand feet to permit easy identification of individual houses, roads and other terrain features. Photographs should be oriented in one direction, preferably north, to facilitate referencing to corresponding map sheets. Photographs can be taken of an entire country, region or specific area to prepare for planned operations. It is preferable to supply a wide coverage to ensure photo availability. Under proper interrogation with maps or photos, critical information can be obtained from cooperative subjects quickly.

Photographs are intended for use in interrogations and debriefings at battalion and civil defense level, and should be used during operations by ground and air units to pinpoint specific locations. Multiple copies will be required and a film storage and maintenance system will be needed at each level.

The most desirable and effective method in this case also appears to be the cheapest and easiest to bring under control of the host nation. The procedure entails the use of entirely indigenous host country assets. Photos taken from a hand-held 35mm camera would be blown up to appropriate (4" by 5") size, probably using a matte finish. **This would obviate obtaining U.S. approval for release of potentially sensitive photography that may be available through other means.**

For more information concerning phototracking, contact Capt. Levesque at AVN 879-3355/3925, or write: ATSI-TI-ST (LITG), Fort Huachuca, Ariz. 85613-7000.

Training Notes

Developing a Battle Focused Training Program

by Lt. Col. Kevin J. Vargas

Our mission is to train with today's soldiers and equipment to deploy to war tomorrow and win. Since this mission must be accomplished in a resource constrained environment, we must concentrate on the Critical Battlefield Tasks (CBT) that will ensure victory.

Time is a primary training constraint. Training time and the length of a soldier's assignment to a unit affect the quality and quantity of training. Realizing we must focus our efforts and account for the realities of our training world, the 312th MI Battalion developed a complementary, modular training program, focused on CBT.

The development process we used was based on modified Battalion Training Management Systems (BTMS) procedures. We subsequently listed and prioritized tasks from all available sources, and attempted to publish a long-range training plan that would ensure every task was trained. Historically, BTMS failed here, due to troop rotations. With an annual turnover rate averaging 12 percent, we could estimate a "new unit" every 10-12 months. With this in mind, we set to work.

Step 1: Identify the Problem.

We extracted from the myriad of training guidelines the critical tasks each level of echelon would need to execute in order to win on the battlefield. The task was discarded, if a direct effect could not be made.

Tremendous learning occurred as we gathered input from leaders at all levels concerning the identification of critical tasks.

Goal identification, understanding training focus and clarification of the roles and responsibilities of the program executors occurred during this step. This phase of the process, though lengthy, was clearly the most important. It would require semi-annual repetition to ensure new arrivals understood the program's philosophy and strategy. Even if the selected tasks were precisely right, reopening the debate would recreate the learning experience.

The 1986 Military Intelligence Writer of the Year

The editorial staff of ***Military Intelligence*** is pleased to announce that Capt. William H. Burgess III has been selected as the "Military Intelligence Professional Writer of the Year," 1986.

Burgess' article, "Special Operations Forces and the Challenge of Transnational Terrorism" (April-June), determined his selection for the annual award.

The authors nominated for the 1986 award were: Capt. Ralph Peters, "Unmatched Spurs" (January-March), Capt. Burgess, Maj. Wayne M. Hall, the at-large nominee for "Air-land Battle Doctrine and IEW Operations" (July-September), Capt. Charles Duch, "Developments in Soviet High Commands" (July-September) and Capt. Richard Groller, "Soviet Psychotronics—A State of Mind" (October-December).

This year's winner was selected by a panel of five senior officers from the U.S. Army Intelligence Center and School, Fort Huachuca, Ariz. The following categories were used as a broad framework for making their selection: originality, content and style, scholarship, and overall appeal.

The staff of ***Military Intelligence*** salutes Burgess with congratulations on receiving his award and thanks him for his fine support of the Military Intelligence professional bulletin.

Step 2: Ensure Tasks are Feasible, Relevant and Significant.

While we have never experienced difficulty deciding what was feasible for a GSR team to accomplish or a RATT team to execute, we have never captured the essence of SIGINT/EW training in terms of equipment capabilities vs threat emitters. We lacked a feasible plan on how to effectively attack more than 2,000 communications emitters and over 60 non-communications emitters with the CEWI Battalion's austere equipment. We now have a workable plan and a training program designed to ensure we can successfully execute that plan.

To determine task feasibility, we compared the technical parameters of threat emitters against the technical capabilities of our equipment. If the emitters were outside the specifications or sensitivity range of our equipment, they were considered unfeasible. All emitters were then evaluated for significance.

Using studies prepared at the Combined Arms Center and National Security Agency, we selected all significant emitters. We defined significant as an emitter which, if destroyed or exploited, would lend an advantage to brigade or division operations. Those outside our ability to exploit were forwarded to the G2 for corps or national level exploitation. An unexpected auxiliary benefit of this process was the creation of a "go to war tomorrow" collection plan at division, and a series of requests for information at corps.

The remaining feasible, significant emitters were assigned a relevance factor based on battlefield events. Factoring relevance added greater specificity to our plan by further narrowing our operational and training focus. These feasible, significant and relevant emitters became the basis of our SIGINT/EW training program.

Step 3: Integrate Levels of Training.

Once the critical tasks for each team had been determined, we identified the individual tasks required to accomplish the collective tasks. Confidence began to grow as we were able to combine SQT and CTT skills under a collective team task.

Step 4: Build Training Modules.

A training module encompasses all the tasks necessary to accomplish the collective task, and can be completed individually in one training session. Modules account for the reality of competing demands on a soldier's time and a trainer's planning. They allow supervisors to select the appropriate periods to train on individual skills and complementary tasks, and to focus on operational requirements. Additionally, training modules help soldiers understand the relationship between individual tasks and team success.

Step 5: Develop a Strategy.

Our strategy was to train an element on each of its CBTs during their time together. We therefore identified a number of cycles, and set aside three days per week for CBT training. The length of each cycle depended on the number and degree of difficulty of the total tasks an element would be required to master. The length for any one element ranged from three to six months. The number of tasks never exceeded the amount of time we expected an element to be together. However, we were prepared to prioritize and eliminate some tasks. Regardless of length, the cycle began anew for each element when one complete set of CBTs had been trained.

Step 6: Execute.

Training must be collaborative. Again, time precludes isolated training on one task. Building modules encouraged collaborative training, but tradition was and remains hard to overcome. If the training event is to operate in an NBC-contaminated environment, the training must begin in the motor pool with thorough equipment PMCS. The training must include the following individual and complementary tasks: conduct a convoy, enter a contaminated area enroute, assume a MOPP posture, conduct survey and monitoring operations, proceed through the NBC chamber, exercise decontamination procedures, execute tactical road march to motor pool, perform after operations PMCS and critique training. This collaborative training adds little time to the training event and creates interest. The result: Motivated soldiers train as a team to accomplish their mission on the battlefield.

Step 7: Evaluate and Modify.

Our original estimate of six months to train voice collection and traffic analysis teams took eight months, but was still within the 10-12 month turnover period. The non-communications intercept teams required four months to achieve proficiency. GSR and RATT teams, motor and C-E maintenance sections can be trained fairly quickly, but have a much higher turnover rate. A simple format and the aid of automated data processing helps us keep current on each unit's training status.

We failed to explain the program adequately throughout the battalion, which pressured leaders to adequately train, evaluate and monitor their soldiers' proficiency. Using professional development classes and battalion formations as forums to explain the program would have reduced the stress.

Because we train SQT and CTT skills and execute them as part of our collective training, first line leaders must evaluate proficiency daily. Job books and counseling become extremely important. Additionally, the format of the CBT was ideal for preparing training schedules and constructing ARTEP booklets for squad, platoon and company evaluations.

Our training program is iterative. New soldiers must be educated. The most difficult part of the assimilation process is mentally accepting that certain tasks, although mandated in official publications, will not be trained. We continue to learn more about battle focused training with each training cycle. There is still much to be done, and we continue to refine our program while we train.

Unique Joint Procedural Training

by Maj. Richard J. Ross and
Maj. James J. De Carlo

Concurrent with the development of air-land battle doctrine and the joint initiatives generated by the Army and Air Force chiefs of staff, emphasis for systematic training to develop and evaluate inter-service coordination channels between the Army, Air Force and other services has increased dramatically. Further requirements were added to exercise these joint procedures regularly. The commanding generals, TRADOC, FORSCOM and TAC therefore agreed to support instruction in joint and combined operations and to provide the necessary facility and personnel for testing and evaluation.

The U.S. Air Force 4441st Tactical Training Group, commonly referred to as "Blue Flag" (BF), developed the necessary exercise to fulfill these requirements with the introduction of the BF Program in December 1976. This group developed training for commanders emphasizing interoperability of C^{3}I in a realistic threat environment.

Blue Flag simulates a crisis or military action using actual order of battle data, contingency plans and concepts of operations. The notional use of collection assets is also included in each exercise. Though carefully detailed, each scenario allows commanders flexibility to test and employ new concepts, equipment and procedures. The exercise requires the development and management of objectives, training, support and analysis activities. Conducted one week per quarter, each exercise's credibility is reinforced by using current U.S. and allied documentation and hosting theater advisory teams.

The first exercise (BF 77-1) was held in December 1976, when personnel from the U.S. Air Force Tactical Air Warfare Center (TAWC), Eglin Air Base, Fla., were deployed to Shaw Air Base, S.C. Since 1979, the exercise has been conducted at Hurlburt Field, Fla., adjacent to the U.S. Air Force Air Ground Operations School. The 4441st and the 4442d Tactical Control Group, which provides equipment and facilities, initiate plans at least four months prior to the start of each exercise. Selected members of the 4441st accomplish actual on-site coordination with the theater command units. From this select group, four full-time Army personnel are assigned to the Army Advisory Element (AAE), which advises the TAWC commander on Army matters and coordinates the Army participation in the BF program.

The importance of ground operations to drive the air portion of the air-land battle was recognized early in the development of BF, and our involvement in the program has increased proportionally. Though the level of Army participation ranges from field armies to individual response cells, Army personnel are trained in joint operations to include the various U.S. and allied staff functions. Army players also participate in the decision-making process of the air-land battle and face the inherent problems of implementing plans and orders in the joint/combined force arena. Blue Flag exercises also offer the opportunity to conduct requisite training for corps or army-level staff with the associated Air Support Operations Center or Tactical Air Control Party.

Army intelligence professionals, through working with the Army G3 Air to formulate reconnaissance asset requests in conjunction with the Air Force, are exposed to Air Force collection platforms and capabilities. This training is invaluable for division-level and above collection management/tactical surveillance officers. Additionally, EW specialists coordinate electronic combat missions in support of the total Allied effort, specifically in the area of Joint Suppression of Enemy Air Defenses (JSEAD).

This training exercise is not restricted to active duty personnel. A Memorandum of Agreement on FORSCOM/TRADOC participation, signed in 1981, evenly divided the number of annual exercises to allow equal participation from both commands.

Although BF is an Air Force, TAC-sponsored exercise, the Army participants receive numerous training benefits through the program. Some include:

- **Theater Awareness Training**. Blue Flag conducts seven theater-specific exercise scenarios. Actual theater threat estimates, general defense plans, concepts of operations, and appropriate standing operating procedures are used to build a C^{3}I exercise, with most of the C^{3}I structure under one roof.
- **Joint Procedural Training**. This is the most significant benefit to Army participants. The procedures taught in the Air Ground Operations School, CGSC and the Advanced Courses are practiced with the actual Air Force counterparts who will be deployed to augment in-theater forces. Army personnel receive theater-specific training in one or more of the following areas: TACAIR support to include close air support, air interdiction and tactical airlift, Army airspace command and control, command and control communications countermeasures and air defense.
- **Exchange of Information Between Services and Branches**. Each exercise normally involves Army representatives from FORSCOM and several TRADOC service schools and centers. Selected exercises also involve Navy and Marine participation. This provides an excel-

lent forum to exchange ideas and refine operational procedures. Personnel from the U.S. Army Transportation Center are now an integral part of Army scenario development to effectively drive the airlift and transportation requirements for both the Army elements and the Military Airlift Command (MAC). The U.S. Army Aviation Center has observed the exercise play and is introducing Army aviation and airspace management procedures. Fort Devens may provide students from their intelligence and electronic warfare courses to participate in the BF Program as an end-of-course augmentation to their own program of instruction. Each year, one exercise is entirely composed of students from CGSC, and another from the service schools and centers of TRADOC.

- **Teach Other Services How the Army Intends to Fight**. Through joint briefings, interservice reports and personal interface, the Army representatives teach other service players how the Army intends to fight the land campaign for a specific theater.

- **Job Related Experience**. Blue Flag, in conjunction with TRADOC and MILPERCEN, is attempting to identify personnel who will be assigned to theater-related jobs portrayed in the program. The intent is to provide the opportunity to participate in an exercise and receive job-specific training prior to arrival in theater. A Korean scenario is scheduled each June, to train incoming personnel.

Blue Flag is a unique, relatively low-cost joint procedural training opportunity which provides benefits to the Army that cannot be obtained elsewhere.

To facilitate future planning for possible attendance, the three-year schedule of BF theater awareness exercises is provided below.

Designation	**Dates**	**Region**	**Participants**
87-3	3-10 Jun 87	Korea	12AF/22AF/FORSCOM
87-4	21-28 Sep 87	USCENTCOM	9AF/21AF/3rd Army
88-1	2-9 Dec 87	5 ATAF	TAC-wide/14AF/21AF/TRADOC
88-2	6-13 Apr 88	NATO CR	TAC-wide/21AF/TRADOC (CGSC)
88-3	15-22 Jun 88	Korea	12AF/22AF/FORSCOM
88-4	20-27 Sep 88	USCENTCOM	9AF/21AF/3rd Army
89-1	Dec 88	6 ATAF	TAC-wide/14AF/21AF/TRADOC
89-2	Apr 89	NATO CR	TAC-wide/21AF/TRADOC (CGSC)
89-3	Jun 89	Korea	12AF/22AF/FORSCOM
89-4	Sep 89	USCENTCOM	9AF/21AF/3rd Army

Further information regarding Army BF training opportunities may be obtained from the Army Advisory Element at AUTOVON 872-5512 or by writing to U.S. Army Advisory Element, U.S. Air Force Tactical Air Warfare Center (Blue Flag), Eglin Air Force Base, Fla. 32542-6008.

The Microfix System One

by 1st Lt. Dean K. Stinson

In September 1982, the MICROFIX project was approved by the Army Electronic Warfare Intelligence Committee as a quick reaction capability. This was born out of the efforts of the XVIII Airborne Corps/525th MI Group and the innovation of FORSCOM to incorporate automation into FORSCOM units.

MICROFIX allows for the automation of selected manual intelligence functions of a TEMPEST-critical, micro-computer system composed of primarily "off the shelf" components. MICROFIX supports the intelligence analyst in the G2 All Source Production Section (ASPS) with capabilities such as videodisk maps with situation overlays and order of battle files with various output reports. Additionally, MICROFIX aids intelligence personnel in becoming more computer literate before the deployment of future automated systems. MICROFIX users are encouraged to develop other application programs tailored to their specific needs.

The original fielding of the MICROFIX System One and V1.1 software was configured into four major functional areas:

- Graphical Intelligence Analysis System;
- Information Retrieval System;
- Topographic Library Program;
- Collection Planning Aid.

There were limitations to the original system. A menu driven format required the operator to return to the main menu between functional areas, and information retrieval and display was not a time-sensitive function.

To improve the overall functionality of the system, FORSCOM contracted with Georgia Institute of Technology to develop a version 2.0 software and hardware, which was completed during FY 85. All fielded systems were subsequently upgraded with the improved products.

The new version included improved operation and module arrangement. The user could now add to overlay databases and symbols with greater clarity. The software was arranged in the harddisk to provide a working area for users desiring to develop their own applications, a training area and an area for developing real-world databases. Most of the application programs were integrated into one major menu, thus eliminating the requirement to log on and off when switching to other applications programs. The situation map functions could be more easily controlled with the joystick and fire buttons. Users were given the opportunity to incorporate their own programs into the MICROFIX application menus. They could create their own overlay symbols, modify existing symbols and change overlay conditions.

As the MICROFIX System One has evolved and the number of fielded systems increased, so has the demand for enhancements to the system hardware and software functions. This demand will be met by the V2.1 software fielded in 1986. The new configuration will have more flexibility and working space. The CORVUS harddisk will be configured into three different workstations with unique capabilities. These will include:

- **Topographical**. This station will manipulate terrain and weather analysis programs including the battlefield environmental effects system, the tactical weather intelligence program and the digital terrain data system.
- **Technical Control and Analysis Element**. This element is expected to provide COMINT analysis support,

U. S. Army Photo by David Sawyer

As the MICROFIX System One has evolved and the number of fielded systems increases, so too has demand for enhanced hardware and software functions.

transcription routine, direction finding routine and signal parameter analysis of potential critical nodes.

- **All Source Production Section**. This section will contain the situation display map, information retrieval system and the collection planning aid supplemented by a division TOC automated collection management plan and communication catalog generator that utilizes JINTACCS message formats and paper tape reader/punch software.

Additional enhancements for the operation of the system will include a computer-assisted instruction software conversion program, a helpful hints manual, gazetteer and an updated program of instruction for individual key personnel training.

As the MICROFIX System One continues its growth and its projected life cycle extends, the role of the U.S. Army Intelligence Center and School increases. The concept now encompasses instructor key personnel training, introductory field training for software upgrades for users, the establishment of a MICROFIX software library and a validation facility for user-developed MICROFIX programs.

The MICROFIX System One has expanded its capabilities and is a proven IEW system. Each software version has greatly enhanced its ease of operation, its utility and its role in supporting the commander's intelligence requirements, and will continue to do so into the 1990s.

Language Notes

Memories of the Army Language School

by Col. L.M. Sinclair (Ret)

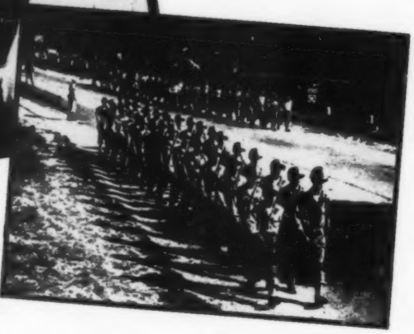
In the summer of 1941, to prepare for the likelihood of war with Japan, the War Department sent Capt. Kai E. Rasmussen to Army camps on the West Coast to seek Japanese speaking people to become linguists. Rasmussen, a graduate of West Point and the U.S. Army's four-year Japanese language course in Tokyo, set up the school at the Presidio of San Francisco, Calif., located instructors, and supervised its move from San Francisco, Calif., to Minneapolis, Minn. and finally to the Presidio of Monterey, Calif. As school commandant for five years, he established training methods, selected native speakers as instructors and determined class size and length.

Soon after Pearl Harbor, potential linguists were ordered to report to the 4th Army Intelligence School at the Presidio of San Francisco to study Japanese for a year before going overseas. At that time, most of the students were "Nisei," second generation Americans of Japanese ancestry. Unlike the Navy, which chose to train only Caucasians as Japanese linguists, the Army decided to use the Nisei as the only large pool of potential Japanese linguists.

The instructors were American citizens who were native speakers of the Japanese language. Most had lived and studied in Japan. The students studied at the Presidio of San Francisco until May, 1942, when all Japanese were evacuated from the West Coast. Consequently, the school was relocated to Camp Savage, Minn. and renamed the Military Intelligence Service Language School.

The Japanese language was studied five-and-a-half days a week, eight hours a day. Students practiced developing their skills by conversing on a one-to-one basis with the more skilled Nisei students. After almost a year of training, students were graduated and assigned to Alaska, India, the South Pacific and the Southwest Pacific.

By early 1946, the Japanese Language School had moved to Fort Snelling, on the outskirts of Minneapolis. By this time, the school had graduated approximately 6,000 students. Since the Veterans Administration (VA) was planning to use Fort Snelling as the site for a new VA hospital later in the year, a



Established in 1963, the DLI is one of the largest language training institutes in the world.

new home for the language school had to be found. The Presidio of Monterey was chosen because it was located in the home state of most of the instructors, and because housing was available nearby at Fort Ord.

Later, the need for Russian linguists became more evident and the school was again challenged. One of the Japanese language instructors, a graduate of Waseda University in Tokyo, was born in Siberia, and spoke Russian fluently. With his assistance, Russian language instructors were soon recruited. Finally, to head the Russian language department, the school recruited a Russian-born Air Force major who had interpreted for President Truman when he met with Stalin at Potsdam.

The school's success in establishing a Russian language department soon led the Pentagon to call on it for additional languages. The Director of Military Training, Lt. Col. Fred Keller, a Spanish and German linguist, set up classes in German, French, Spanish and Portuguese. Intelligence reports in those days envisioned a Soviet move into the Balkans or the Middle East, and the school was requested to provide instruction in the languages of those areas.

The editor of a Greek newspaper in New York was selected to head the Greek department, two Turkish students from the Univ. of Indiana started the Turkish department and a merchant from Teheran became the first Persian instructor.

The school was then renamed the Army Language School.

To provide more effective coordination of DoD language programs, the Defense Language Institute (DLI) was established in 1963 with the Army as executive agent and located its headquarters in Washington, D.C. In 1973, DLI came under the control of the Army Training and Doctrine Command, and a year later headquarters were relocated in Monterey. In 1976, the English Language Branch was detached and DLI was then redesignated as the Defense Language Institute Foreign Language Center.

Since 1941 more than 135,000 students have graduated from DLI. There are approximately 2,800 students enrolled at the DLI at any given time. More than 6,000 students enroll each year. The 800 instructors are primarily civilian, foreign-born and speak their target language at a native proficiency level.

There are currently 33 language departments at the Presidio. The largest language departments, based on the size of the student input are Russian, German, Korean, Spanish, Arabic, Chinese-Mandarin and Czech. Most courses range from 25 to 47 weeks. Students attend classes six hours a day with an additional three to five hours homework. No more than 10 students are assigned to a classroom.

Today DLI has almost 400 classrooms, more than 1,300 language lab positions, dormitories, dining halls and a variety of support and recreation facilities.

Forty languages and dialects are taught, and through arrangements with other agencies DLI is capable of providing training in approximately 61 languages. They are divided into six schools of language; Romance, Germanic, Asian, Middle East, East European and Russian.

Today, the DLI is one of the largest language training institutions in the world. The languages taught at the school extend the military services' capability for communication to nearly half the world's population. Facilities have been established at Lackland Air Force Base, Texas and the Presidio of San Francisco. The school also maintains liaison offices in Washington, D.C. and Heidelberg, Germany.

In 1983, a $127 million construction program began that will accommodate a doubling in enrollment and permit the school to close its campuses in Texas and San Francisco.

A New Tool is Needed

by CWO2 Donald K. Swigart

The Army's evaluation device for testing Army linguists leaves much to be desired. When considering the diversity of missions performed by Army linguists, one should question the validity of evaluating their knowledge of a language with a single, generic measure.

Knowledge of a foreign language required by a soldier's MOS is assessed via the Defense Language Proficiency Test (DLPT). According to AR 611-6, Army Linguist Management, certain MOSs require that soldiers pass the DLPT annually. The implications of relative soldier promotions and career progression are obvious.

The DLPT III, the Army's language assessment gauge, began replacing the DLPT II in 1984. Generally, the DLPT III is an excellent examination, since it measures a soldier's competency through reading, writing, listening and speaking exercises. The DLPT II only assessed listening and reading comprehension. In this regard, the DLPT III more critically evaluates a linguist's abilities. However, the test is still generic in its orientation. A newer and more comprehensive tool is required.

The Army should formally request that the Defense Language Institute (DLI) develop new testing tools for Army linguists. In order to justify this tasking, consider how Army linguists are trained.

During in-processing at DLI, prospective linguists are greeted by faculty representatives, who then separate the students according to curricula. The division of students is based upon their respective MOS. Consequently, the students are trained differently according to the requirements of the MOS. Perhaps the most pronounced distinction in instructional procedures may be noted between the language training provided for MOS 97E and 98G: the former orients on speaking; the latter on listening.

Army linguists *are* educated differently, and they serve differently with unique responsibilities. Logically, they should be evaluated differently. MOS-specific language tests could more effectively evaluate proficiency than the DLPT III.

Test production to meet this requirement should not involve a major funding or manpower effort. Core materials are now available. For example, DLI has produced the Professional Development Program (PDP), an extension course for interrogators. PDP could easily serve as a basis for developing an MOS-specific language test. Fort Devens has also produced the Voice Intercept Comprehensive Examination (VICE) for testing 98G personnel.

MOS language training must be different and unique to satisfy MOS requirements. A more comprehensive, individualized testing program is necessary to accurately evaluate and ensure the effectiveness of the training as well as retention and proficiency.

FLASHCARD: A New Approach to Language Training

by CWO2 Sherman C. Reagan

Though foreign language specialists are vital to the Military Intelligence mission, their readiness has recently been questioned—and, with good reason. Some soldiers emerge from the Defense Language Institute (DLI) with good entry-level skills but are assigned to operational units where they lose proficiency. This wholesale deterioration of critical foreign language skills is a chronic problem for the Army worldwide—especially in tactical units—and is a direct result of inadequate language training at the unit level.

Oddly enough, despite the urgency and magnitude of the problem, the Army does not provide concrete guidance on how to establish and conduct in-unit language training. Language skills are fundamentally different from other soldier skills. The strategies and programs which work well for common skills training, for example, cannot be applied to language training.

Since language skills are perishable, competence in a foreign language depends on constant use. Mastering any foreign language requires many years of intensive study. School-trained linguists who do not use their language regularly lose proficiency at an alarming rate.

Average skills, which may suffice for routine, peacetime operations, will not suffice in a wartime environment. The demands placed upon the skills of tactical linguists in a combat scenario are likely to be enormous and unpredictable. The intensive, full-time language training at DLI serves only to provide soldiers with a solid linguistic foundation upon which the soldier must build.

Presently, there is no fast, accurate and objective method to determine proficiency. Tests such as the DLPT-II and DLPT-III provide a useful indication of relative skill, but can hardly measure results in all cases. The standard language proficiency tests have value, but training supervisors must realize that a true appraisal of a person's language competence is only possible over time, in the context of a comprehensive training program.

There are many effective ways to organize a language program, and no single approach is ideal for every training situation. The availability of training time, funding and language trained supervisors are a few factors to consider when selecting the best overall language training strategy. A good language training program must be individualized, structured, intensive and simple.

Effective language training must address the individual needs of soldiers. A successful program must adopt a combined formal and individualized approach as the primary vehicle of language instruction. It must also be relevant, consistent and cost-effective. Properly structured training will permit supervisors to monitor, document and report progress easily and accurately.

The 207th MI Brigade has sponsored the development of a language program based on the MICROFIX computer system and a software package called FLASHCARD.

In January 1985, the Language Support Team (TCAE), 307th MI Battalion, started to develop language training software for the MICROFIX computer system. That October, the team produced FLASHCARD, a user-friendly, highly flexible training tool.

FLASHCARD's concept is quite simple. New material is placed into files in a database. FLASHCARD accesses this database and tests the student on the contents of individual files. This method enhances training effectiveness, permits maximum flexibility and maintains interest. Some features built into the software follow:

- **Expandable file size, 50-question limit**.
- **Random Selection**. All the questions in a file are presented each time the file is accessed, but in a different order. This significantly improves training retention, especially in vocabulary drills.
- **Multiple Question/Answer**. The software permits up to five entries on each side of a flashcard. If a student answers a question incorrectly, the computer will provide both the correct answer and an explanation.
- **Automatic Grading**. This self-grading capability is critically important to training supervisors, because it enables them to monitor and document an individual's progress.

The language program built around FLASHCARD is arranged in modules—one Basic Module per language, plus a series of Graded Enhancement Modules (GEMs). The Basic Module is a complete language course, including core vocabulary, grammar, and exercises keyed to a carefully chosen grammar textbook. The Russian Basic Module is based on the **Penguin Russian Course** (Penguin Books, 1961 edition, 1984 reprint), an excellent paperback edition which is compact and inexpensive.

Numerous files in the FLASHCARD database are keyed to each lesson in the text. Vocabulary files require translation of individual words and phrases. Grammar files relate to target language morphology and syntax, while exercise files require students to complete target language sentences. They require simultaneous manipulation of recently learned vocabulary and grammar.

Linguists must complete assignments

within a specific time period, and achieve a grade of 90 percent or higher. When a student meets these standards, his supervisor assigns the files for the next lesson.

In a FLASHCARD Basic Module, linguists make steady, documented progress through a well-designed course, and emerge with a solid command of target language grammar and a workable vocabulary.

In Vocabulary GEMs, the vocabulary is presented in descending order of frequency. Module I would contain files introducing, exercising and testing the 1,000 most frequently encountered words in a given target language. Module II would drill the next 1,000 high-frequency words, and so on.

FLASHCARD Grammar GEMs are designed to provide in-depth practice on limited subjects. This kind of module addresses the individual weaknesses of a linguist.

For the purposes of this program, there are only two basic kinds of language training situations—low-density and high-density.

In a low-density situation, the number of linguists to be trained in any given language is small. Examples include linguists who by the nature of their position lack daily exposure and training in their primary or secondary languages, and small groups of linguists with differing skill levels. In such a low-density training environment, traditional approaches to language training may be neither desirable nor practical. Instead, use FLASHCARD as a stand-alone program. Any FLASHCARD Basic Module is a complete and thorough grammar course which any supervisor can administer effectively.

A high-density situation arises whenever there is a large number of linguists for any one target language. In this kind of unit, language labs and native-speaking contract teachers may be available to diversify and enrich the training program. In a well-balanced program, including classroom instruction, tape training and FLASHCARD, use FLASHCARD as the primary means of presenting grammar and vocabulary. The classroom should give linguists an opportunity to practice using newly acquired skills. FLASHCARD provides the individualization normally lacking in classroom-based programs. It will automatically document completed training, and address special deficiencies in grammar and vocabulary.

For more information about FLASHCARD, contact the Language Support Team (TCAE), 307th MI Bn, APO NY 09279, Attn: CWO2 Sherman Reagan or SFC Dee Barnett.

Language Olympics

by SFC Steven T. Elliott

How does a brigade commander influence the language training programs of three battalions with three different language missions? To solve this problem, the 207th MI Brigade (CEWI) conducted a brigade-level competition called "Language Olympics." It involved 80 Russian, Czech and German linguists from the 2nd MI Battalion (AE), 307th MI Battalion (OPS) and 511th MI Battalion (TE), competing in 25 events exercising communication and comprehension skills as well as overall target country knowledge.

The language mission of the 207th MI Brigade involves five MOSs and three target languages within three battalions in ten locations. This situation presents very real challenges in accomplishing effective language training. To emphasize the importance of the brigade's language mission, the "Cactus Language Council" was formed. The council, chaired by the 207th MI Brigade commander, consists of senior linguists from each battalion. The council provides command emphasis for language training and develops innovative strategies for language training in a tactical environment.

One of the council's first projects was to provide comprehensive solutions to the brigade's training challenges. Objectives entailed promoting language training in the brigade, providing soldiers with an opportunity to display their skills in a competitive forum, highlighting language training initiatives, and exchanging ideas and developing solutions to brigade-wide language training problems.

Creative ideas and use of local assets were critical to a successful olympics program. Responsibility for developing the olympics was divided among three battalion council members and the 207th MI Brigade S3 training office. The council decided that the Language Olympics should stress maximum individual participation. Every linguist was programmed to compete as a member of a battalion team. Each soldier received a certificate and medal for participating, while battalions competed for best language team and best overall battalion. First, second and third place trophies were awarded.

The Language Olympics Committee developed 11 events for the competition. By keeping the events unclassified, access and control problems were nonexistent, while maximum spectator participation was provided. The Cactus Council was responsible for designing, moderating and judging events in their respective languages. The events that comprised the Language Olympics were:

Flashcard. Two contestants from each battalion language team had 20 minutes to complete 50 grammar questions. Previous computer training was not necessary.

Scrabble. This event was played by Russian linguists using a commercially procured Russian Scrabble set. Two contestants from each battalion language team had 50 minutes to construct as many Russian words as possible.

Get the Point. This comprehension event required battalion teams to read three texts and correctly answer related questions in ten minutes.

Dig It Out. Battalion teams were given a five-minute excerpt of a commercial radio broadcast to transcribe. Teams were allowed 50 minutes to complete the transcription as accurately as possible.

Equipment Disassembly. Battalion teams were tasked to disassemble and assemble a landmine using vocal instructions in the respective team language.

Handlogging. After completing a handlog of a one-minute commercial radio broadcast excerpt, battalion team members were required to answer a set of related questions.

Password. All passwords were given in the target language.

Get the Picture. Using the team's target language, one team member instructed another team member doing the drawing. Teams attempted to reproduce a detailed picture in 12 minutes or less.

Jeopardy. Battalion teams were asked questions on weapons, vehicles and uniforms of the Czech, Russian and East German military forces.

Verbal Relay. This event was played

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by battalion teams consisting of three personnel. Phrases were passed in English, translated, passed and retranslated.

Linguist Trot. This event was a 50-meter relay race between the battalion teams' starting points and either a geographic, cultural or vocabulary station. Each team representative would answer a question in his target language at one of the three stations. The event was completed after all questions were answered by the teams.

Each battalion of the 207th MI Brigade entered a language team in Russian, German and Czech. The Language Olympics were held in Ludwigsburg, GE, from 17-19 June 1986. They were attended by representatives from ACSI, DCSI and DCSOPS, USAREUR, VII (U.S.) Corps, the Foreign Language Training Center, Europe and INSCOM.

The 207th MI Brigade Language Olympics were an unqualified success. They stimulated the creation of a well designed and innovative training program which recognized that language skills are highly perishable. These skills need to be maintained and enhanced if linguists are to remain combat ready. The first and most critical part of any successful training program is the need for commanders to be involved, emphasizing that training is the key to readiness. In the 207th MI Brigade (CEWI), the Language Olympics is one tool that provides this command emphasis.

A New Direction for Army Interrogators?

by SSG Douglas K. Ellrich

Since the early '70s, headlines in major military journals have decried the U.S. Army's miserable state of language readiness. Historically, the Army has been woefully unprepared with linguists, even when the magnitude of the need was patently clear. The Army has never devoted the additional resources it has always admitted were necessary, and evidently will not devote them now.

Due to the lack of readiness of military linguists, the Army will be forced in future conflicts to depend on foreign nationals, making Army-trained interrogators an insignificant statistical population that will be largely ignored.

The recent discussions of interrogator training requirements are nearly comical. Consider that the ordinary soldier uses between 10,000 and 20,000 words in typical conversation. He can passively use another 10,000-20,000 words when required. An officer can probably use between 20,000 and 75,000 words with another 25,000-75,000 in passive use. DLI teaches between 2,000 and 5,000 words in its basic courses. Not even the most impassioned student of languages could conduct an effective interrogation after schooling at DLI. Further, he will be limited to an active vocabulary increase of a few thousand words over the course of time. An aspiring interrogator who studies in accordance with established Army regulations could take approximately ten years to become truly effective. This entails properly accented speech, structural and stylistic accuracy, subject matter expertise and social status awareness. An interrogator must be able to question subjects from all class systems, from the rural peasant to the general officer. The problems of Voice Intercept personnel are clearly different.

The DLI religiously teaches students to use more words than necessary to accomplish the task of communication. Unfortunately, this method cannot effectively be applied to either phase of interrogation. The vocabulary needed for interrogation cannot be predicted and is entirely dependent on the source's personal knowledge.

Consider the training of non-military translators and interpreters in Europe. The Univ. of Geneva requires two years of study beyond a bachelor's degree for a translator, and three years for a paramilitary interpreter. *The Army routinely expects interrogators to achieve the same level of competency after a high school education and 11 months at DLI.*

The Army is slowly realizing and appreciating the difficulty involved in time-compressed training. The doctrine for PSYOP, a new intelligence MOS that requires languages, stresses the importance of acquiring native speakers for support when entering a country to conduct operations. Language-trained Army personnel are thereby able to supervise their work.

Competing organizations tend to "borrow" from each other's structure, as seen in the Soviet Army. Language training has proven the exception in this case. We approach the linguist issue entirely differently. In the U.S. Army, all interrogators are enlisted personnel: in the Soviet Army, all interrogators are officers. *The United States does not adequately appreciate the importance of languages, since we expect everyone to speak English.* Our ethnocentricity in this regard is legendary throughout the world. Soviet xenophobia does not allow the use of foreign nationals in intelligence work. The Soviet Union's method demonstrates the importance a multilingual nation places upon language skills. Officers must attend a three-year school after a bachelor's degree to learn English—not an inconsiderable investment in time and resources for the Soviet Union.

With this in mind, the following proposal seems to contain the antidote to the "linguist problem." To make ad hoc changes to the present program is to try to fix something that is beyond repair. Language teaching and maintenance research conducted by the Modern Language Association, American Translation Association, International Federation of Interpreters and the major universities address how to achieve the desired language proficiency, and the Army needs to make the commitment. The following suggestion could greatly diminish retention, recruitment, education and morale problems of interrogators.

Enroll the interrogators of the CONUS divisional EW units in institutional language programs. Common task training would be accomplished by two months of annual field duty. Warrant officers or a senior NCO would remain in the division to prepare for training and monitor occurrences that impact on the interrogation mission. Students could be recalled in the event of need. At mobilization the divisions would receive linguists of the appropriate language.

Send each 97E to DLI initially as is done now. Interrogators upon graduation would attend an accredited university on a select list. Included would be schools with demanding curricula and nationally recognized language departments. It is not inconceivable that students could be admitted to the Univ. of Alexandria, the Pushlin Institute or the Univ. of Seoul in a permissive TDY status. This satisfies existing regulations but would constitute a problem to the student for billeting and local administrative support.

Upon completion of a semester, the soldier would deploy to a tactical unit for training. Two to three months of annual MOS and CTT training would guarantee proficiency in basic soldier skills.

Funding is available with the 90 percent tuition payments. Initial enlistments under the program could entail a six-year commitment. Post graduate-level work could serve as a reenlistment incentive. A competitive grade-point average and participation in a limited full-time studies program would qualify for continuance in the program. This would permit cross-training, since many low-density languages are required in broader language study programs.

The advantages to this system outweigh all the disadvantages. The hard fought battle for proficiency pay recently won would be obviated. The level of proficiency would be self-monitoring. Soldier leaves taken during the school year would allow for a complete three-month in-unit training period. Given these incentives, the recruitment of enlisted soldiers can most likely fill the need for subject matter experts in the language, psychology and sociology of various target countries. Educated soldiers will, if properly recruited, become tomorrow's competent warrant and commissioned officers.

With the adoption of this proposal, we could expect to have a linguistic capability second to none in quality. Unfortunately, we will always be outmanned and will be required to do more with less. This program would increase the level of tactical proficiency among interrogators due to the intense nature of their training. Those who take advantage and are subsequently assigned would have a significant leavening influence on the entire intelligence community and the Army's overall language capabilities.

TERRORISM

(Continued from page 23)

must cooperate at all levels to face this political challenge. When a state tolerates anti-government violence, it erodes public confidence and opens the door to expanded political instability.

The time for debating the political terrorism question has passed. Terrorist groups operating in Western Europe, whether state-sponsored or indigenous, have made their objectives very clear. No terrorist group is ultimately interested in compromise or meaningful negotiations. Therefore, by definition it is futile for a target state to treat them as a rational political entity.

The Reagan administration has recently struck back at terrorist groups and their patrons.[13] The remaining challenge is to maintain a consistent policy of counterterrorism and to ensure the cooperation of our European allies. Only after we have a clear, workable understanding of political terrorism and its many implications can we attempt to eliminate it. ★

Footnotes

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Capt. Brian R.E. Miller is currently S2, 2nd Brigade, 9th Infantry Division (MTZ). His previous positions include Latin American terrorism analyst, USSOUTHCOM J2 and S2, 1-34 Armor Battalion. Miller is a graduate of the Postgraduate Intelligence Program and holds a master's degree in strategic intelligence. He concentrated on the study of terrorism in Western Europe and the uses of intelligence in counterterrorism operations.

PROFESSIONAL READER

Terrorism as State-Sponsored Covert Warfare by Ray S. Cline and Yonah Alexander, Fairfax, Va.: Historical Evaluation and Research Organization, 1986, 118 pages, $12.95.

Cline and Alexander, in cooperation with Georgetown University's Center for Strategic and International Studies, have written a rather interesting work. It was first presented by the authors as a report to the Senate Committees on the Judiciary and Foreign Relations. Shortly after its presentation, TWA's Flight 847 began its 17-day ordeal. For Cline and Alexander, it was one of the most revealing cases of state-sponsored terrorism.

The authors define state-sponsored terrorism as: "The deliberate employment or threat of use of violence by sovereign states (or subnational groups encouraged or assisted by sovereign states) to attain strategic and political objectives by acts in violation of law. These criminal acts are intended to create overwhelming fear in a target population larger than the civilian or military victims attacked or threatened. The main goal of this state-sponsored terrorism is to undermine the psycho-social stability and political governability of pluralist states with representative governments, particularly if they are friendly to the United States."

Furnishing documented evidence is a perennial problem, and this book is no exception. It does, however, provide some examples of linkage between individual terrorists/terrorist organizations and various states. Full proof is always hard to obtain. Some documentary evidence is shown in the book and more can be found elsewhere, such as evidence seized in Lebanon or Grenada. "Probable cause" to believe is present; however, "proof beyond a reasonable doubt" has yet to be presented, particularly in this book.

Cline and Alexander's **Terrorism as State-Sponsored Covert Warfare** is a call for action. The authors demand Congressional response, defining the acts clearly so that appropriate action can be taken if the event occurs within U.S. jurisdiction. The action petitioned is a clear and quick announcement that military force may be resorted to when the following conditions occur:

- The appropriate law enforcement system is unable to deal with political and ideological violence on a wholesale and protracted basis. The British Army deployment in Northern Ireland as a peacekeeping force is a case in point.

- A cross-border paramilitary terrorist or guerrilla campaign, conceivable at home but more likely against a foreign military base, is prolonged. This situation requires military force for protection duties, hot pursuit and sanctuary for base destruction, as in the case of the Israeli Army's counterinsurgency deployment.

- Civil authorities or police are clearly inadequate in terms of personnel, training or weapons when conducting hostage rescue or other emergency counterterrorist operations. The Israeli, British and German rescue operations provide classic examples.

They also envisage four other roles for the military. First, the intelligence establishment within DoD would support the CIA and FBI in clandestine counterterrorist infiltration of the terrorist organization. Second, appropriate training and logistic support would be given to foreign counterterrorist military operations. Third, the United States would develop and employ, if necessary, military preemptive operations against terrorists. And fourth, the U.S. military would undertake operations against identified terrorist bases and forces that were used against American targets. After the book was written, U.S. forces struck Libya.

Suggestions for military options are not the only recommendation. The authors believe in a wide spectrum of countermeasures. The United States needs aggressive, inventive and sophisticated intelligence collection. We must be in concert with our allies in action, intelligence and aid. Diplomatically, we must have a stated policy of response. Also, we will withdraw recognition, expel diplomats and students, reduce consular staff and impose travel restrictions. Economically, we can embargo trade and freeze assets as long as needed. Lastly, we should use our broadcasting capabilities to arouse world opinion and negate target groups. Cline and Alexander contend that a broader, more aggressive approach is needed.

Terrorism as a State-Sponsored Covert Warfare is interesting reading. It does show frustration with past impotence. It's a good point for discussion.

Peter C. Unsinger
San Jose State University

Fighting Back: Winning the War Against Terrorism, edited by Neil C. Livingstone and Terrell E. Arnold, Lexington, Mass.: Lexington Books, 1986, 268 pages, $12.95.

Fighting Back: Winning the War Against Terrorism is excellent reading for anyone desiring to understand the problem of terrorism and the complexities involved with it. The authors address their specific subject matter in a very straightforward, honest manner, without attempting to bias readers. They provide the reader with in-depth information concerning dilemmas encountered when they attempt to resolve the complex terrorism problem.

The book's underlying theme is presented in the forward by Robert McFarlane, who quotes Count von Moltke, "Strategy is a system of makeshifts." Throughout the book, the emphasis is on the complexity of the problem of terrorism and thus the necessary complexity of any effective means of dealing with it. Rather than advocating a simple, quick and all-encompassing solution, the advantages and disadvantages of alternatives are discussed, with emphasis that there is no "best" answer to any dilemma. In the first few chapters of the book, the authors acknowledge that terrorism, being a tactic available to almost any small group at a very low monetary cost, is here to stay. Consequently, it has changed the way we live to some extent and heightened our awareness of its existence.

One view, emphasized throughout the book, is the importance of not sacrificing the democratic principles we are striving to safeguard, while attempting to deal with terrorism. The authors make it clear that fighting terrorism is necessarily much more difficult and complex in a democratic society such as ours, than it is in nations where freedom of expression is restricted.

It is this difficult dilemma of weighing the degree of intrusion on our individual freedoms against the benefit to the nation's welfare as a whole (minimizing the effectiveness of terrorism), that makes it clear to the reader that there is no single best way of confronting terrorism. After considering the various views, most readers may agree that there is no strategy to be considered without having to seriously weigh the benefits to our democratic way of life.

The authors do an excellent job of focusing on the strategic and tactical aspects of terrorism problems, but they also devote attention to the moral and political dilemmas—such as preemptive or retaliatory strikes. It is the consideration given the political and moral side of coping with terrorism that sets it apart from others which address only operational tactics. The book should serve as both a reminder to professionals of the complexity of their tasks when countering terrorism and as an easily understood explanation to the casual reader of how difficult the professional's task is. The book offers an explanation not often put forth in literature or news media accounts.

Gary D. Strohm
GSE, Manhattan, Kan.

Acts of War: The Behavior of Men in Battle by Richard Holmes, New York: The Free Press, 1985, $19.95

Why a soldier will stand up and move forward in a hail of bullets, or why some units fight with cohesion against staggering odds and others break for little apparent reason is a mystery that continues to shroud the battlefield. Richard Holmes' book, **Acts of War: The Behavior of Men in Battle**, deals with this little researched dimension of warfare. In the tradition of Siborne, du Picq, Marshall and Keegan, Holmes attempts to penetrate the enigma of man in battle. He examines the individual soldier's perceptions, fears, deprivations and stress.

For the greater part of warfare, the average soldier has been illiterate and unable to leave his impressions of past battles. With growing literacy, the writings of common soldiers have increased, particularly since World War I. Also, the direct access of reporters and authors to participants has resulted in greater awareness of the individual soldier caught in the acts of war. From a broad and impressive bibliography, Holmes attempts to identify commonalities and enduring aspects of life on the battlefield throughout history. He explores the impact of fatigue: "Research on both sides of the Atlantic indicates that adequate performance can be sustained for several weeks with as little as four hours sleep in a 24-hour period or six hours for more protracted operations. However, even these small amounts of sleep are denied many soldiers."

His conclusions on the value of comradeship reinforce previous conclusions by the military historian, S.L.A. Marshall. Holmes believes the "key to what makes men fight lies with the military groups and bonds that link the men within them." It was recognized early that close relationships between members of a group had positive advantages in battle. Administratively, the Romans established an eight-man mess unit, Prussians a seven-man **Kameradschaft**. Such a premise provides insight to the current emphasis on the cohorts and regimental system being installed by the U.S. Army.

Initially, Holmes observes, a soldier's fear was self-disgrace in the eyes of contemporaries. Once a soldier became seasoned to combat, the fear became that of crippling wounds. Veterans knew of the horrible and indescribable grotesqueness battle inflicts upon the body. Several methods of coping were utilized, as indicated by writings from past battles, through interviews of Falklands participants.

The book had an interesting and revealing look at the statistics on the casualties of leadership. Holmes' summing remarks were, "Blood is the price of epaulettes, and chevrons come no cheaper than epaulettes."

The increasing application of technology to the battlefield and the systems analyst's efforts to quantify warfare must be matched by the exploration of the intangible human dimension in the acts of war. The richness of Holmes' examples and the professional relevance of the material will offer numerous points for reflection. This book should become a standard on military reading lists.

Lt. Col. Richard N. Armstrong
Chief, CTOCSE, III Corps

The Logic of Deterrence by Anthony Kenny, London, England: Firethorn Press, 1986, 104 pages.

Don't let the size of this book fool you. In what appears to be a brief essay, Anthony Kenny does an admirable job of examining secular and Christian arguments for and against nuclear disarmament. Kenny, a leading philosopher and former priest writes, "Pacifism is a moral error, no matter how noble the respect for life and love of peace which inspire it."

War is a human activity. Like all human activity, it requires rational deliberation and moral evaluation. As shown in the book **Just and Unjust Wars** by Michael Walzer, the ethics and morality of war are fully justified under certain conditions.

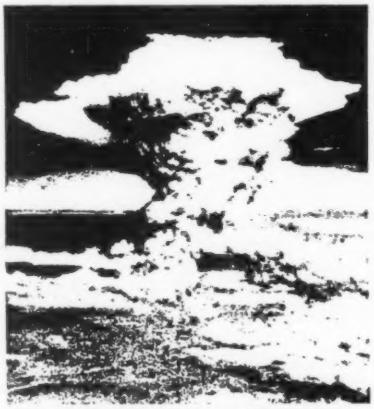
Kenny writes that though there is truth in a moral and just war, nuclear warfare exceeds the bounds of a legitimate human institution; it cannot be justified under any circumstances. His assumptions are based on the ethics of war and their relevance to today's modern battlefield. For example, in past wars, combatants and civilians were separated during their participation in the war. The soldier actively engaged the enemy 'le the factory worker built the means to gage him. Thus, the factory worker was as much responsible for the destruction of the enemy as the soldier; this made air raids on civilian population centers expediently justifiable.

With nuclear weapons, however, a distinction can no longer be made between combatants and non-combatants; today's wars involve entire communities. Going one step further, Kenny states: "Today, war is waged against whole communities. There is no doubt that counter-city strategy in a nuclear war would involve the deliberate killing of the innocent and therefore, constitute murder by the traditional rules of the just war."

Behind this unwanted background, he advocates a limited unilateral nuclear deterrence. Since the United States has the capacity to obliterate the Soviet Union 20 times over, a reduction in nuclear weapons would neither compromise the "balance of peace" nor threaten national security, while reducing the chance of a missile accident.

While the author concedes the United States can only go so far in dismantling its nuclear weapons before the Soviet Union must do the same, he relies on a realistic approach to disarmament. He recommends that submarine-based, strategic nuclear forces remain intact and that conventional defenses be strengthened—especially in the European theatre. Though Kenny advocates the disarmament of nuclear forces in both Great Britain and France, he seems to do it halfheartedly. One doesn't need to devote serious thought to the palpably absurd notion that the United States would allow the nuclear devastation of one of its allies. The British and French weapons have little legitimacy except to involve the United States in a nuclear exchange with the Soviet Union. No other country can claim a second strike worthy of its name.

In 1962, Bertrand Russell wrote a 92-page book entitled **Common Sense and Nuclear Warfare**. In both Russell's and Kenny's books, the perils of brinkmanship are analyzed and debated with clarity, while specific steps toward disarmament are amorphous. Both books outline the danger of thinking of nuclear warfare in the traditional terms of power politics and emphasize that battles fought with nuclear weapons will bring destruction to both victor and vanquished.



Apparently, some ideas never seem to die, even when it doesn't seem that anyone is paying attention to them. Or are we?

Sgt. Jan Goldman
Panama

The Falklands War: Lessons for Strategy, Diplomacy and International Law, edited by Alberto R. Coll and Anthony C. Arend, Winchester, Mass.: Allen & Unwin, Inc. 1986, 252 pages, $12.50.

It seems clear that only a multi-disciplined treatment of a modern war which encompasses international law, politics, diplomacy and military strategy can adequately convey the importance of a modern conflict. With that in mind, the editors of this important treatment of the Falklands War have appropriately assembled essays by leading scholars in each of those areas, to analyze the significance of the Falklands dispute. Because of its varying perspectives, this book presents a uniquely comprehensive overview of the conflict.

The first part of the book by Professors Coll and Arend details the challenges which the Falklands War posed to international law. Following a comprehensive discussion of its historical background, the editors present an important discussion of the role and applicability of international and legal norms to the conflict. Among the lessons to be drawn is the failure of collective enforcement to deter aggression, notwithstanding the provisions of the United Nations Charter.

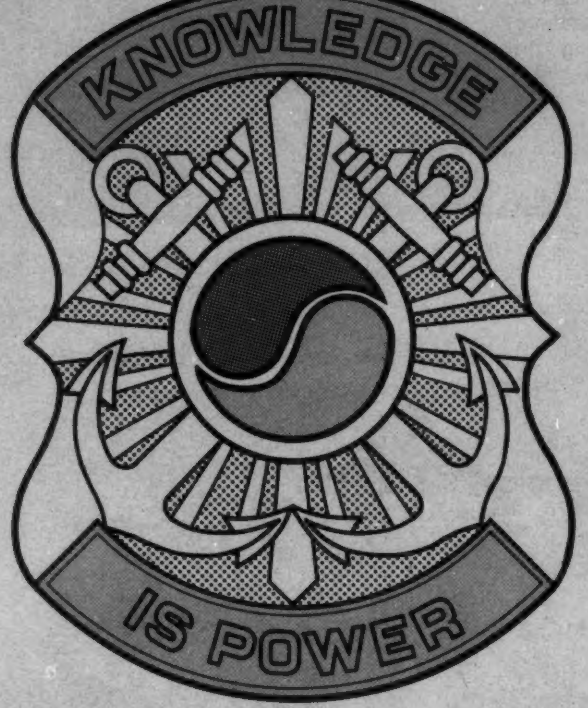
Of particular significance to military commanders is Howard Levie's essay on the role of the laws of war in the Falklands. After discussing the mission of hospital vessels, employment of incendiary weapons, blockades, employment of mercenaries (the storied Gurka rifles), and treatment of civilians and prisoners of war, Levie concludes that, "The conflict illustrates that states can wage conventional warfare in compliance with the laws of war without thereby giving admission a substantial military advantage." However, because the Falklands War was a limited war fought between two Western and Christian nations, the applicability of its lessons to wider conflicts is still speculative.

The second part of the book is devoted to a consideration of the diplomatic maneuverings which sought to prevent hostilities after the Argentine invasion. As discussed by David C. Gompert, deputy to the undersecretary of state for political affairs and a participant in the Haig mission which sought to mediate the crisis, the Falklands dispute is an example of the failure of the postwar international order. A similar failure can be seen in the use of the United Nations as a forum for each side to claim legitimacy for its position, rather than as a forum to seek peace.

The work's most important section, which addresses the strategic, military and political implications of the war, features a provocative essay by Don Zakheim on the military lessons of the Falklands War, focusing particularly on naval warfare. Of particular significance is the demonstration that surface ships can survive in the face of capable opposition, and navies can successfully operate in hostile environments at the end of long supply and communications lines if adequate defense-in-depth and cover provided by sea-based aviation are available. Although their supply lines were far longer, British forces were nevertheless consistently better supplied than their Argentine foes. A significant Argentine shortcoming was the failure to employ sufficient electronic warfare capabilities to exploit the British lack of electronic countermeasures or counter-countermeasures. Zakheim concluded his essay by reviewing the performance of various modern weapons systems during the war.

Coll and Arend are to be commended for adopting a multi-disciplined approach to the Falklands conflict. The scholarly essays that comprise the book are both objective and forceful. However, what sets this book apart from others like it is the care which the editors took to create a book with the unifying theme that, "Politics, diplomacy, strategy and law are inextricably linked and must be examined together, if lessons are to be learned and further conflict to be avoided." To all students of conflict management, this book will provide a comprehensive and readable analysis of a significant recent crisis.

Jayson L. Spiegel
331st MI Company



The gold crossed anchors allude to the two U.S. Presidential Unit Citations (Navy) awarded to the organization. The golden sun alludes to Philippine war service and to the Philippine Presidential Unit Citation. The red and blue taeguk symbolizes the Republic of Korea Presidential Unit Citation of the battalion's ten honors in the Korean War.

163d

Military Intelligence Battalion

The 163d Military Intelligence Battalion (Tactical Exploitation) was initially organized in April 1945, as the 163d Language Detachment, Luzon, Republic of the Philippines, as American forces under Gen. Douglas MacArthur, liberated the Archipelago from the Japanese occupation forces. The detachment's distinguished service in the campaign resulted in the award of the Philippine Presidential Unit Citation in July 1945.

On September 25, 1949 the unit was reorganized and redesignated as the 163d Military Intelligence Service Detachment. Nine months later, the North Korean Peoples Army launched a surprise attack across the Thirty-eighth Parallel, signaling the start of the Korean War. The 163d MI Service Detachment served throughout the conflict, including the Pusan Perimeter, the counterattack to the Yalu and retreat and stalemate along the Thirty-eighth Parallel. Honors won by the 163d included the Presidential Unit Citation for service during the Inchon Landing, as well as a Navy unit citation for service at Panmunjom.

The unit was moved to Livorno, Italy, where it was designated as the 163d Military Intelligence Battalion on September 20, 1957.

In 1963, the 163d MI Battalion was reactivated at Fort Hood, Texas. In addition to the aforementioned laurels, the 163d holds 11 battle streamers from World War II and Korea. On May 4, 1971, the Secretary of the Army accorded the battalion the title, "Blue Watch."

The 163d MI Battalion provides the commander with near-real-time, multidiscipline intelligence support derived from prisoner of war interrogation, document exploitation, aerial collection, signals intercept and electronic warfare.

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